

Page 1
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PIA 4380-614

Indian and Northern Affairs Canada, British Columbia Region

Project Register and Environmental Screening Decision Form

Band/Reserve NAKAZDLI BAND IR #1

File No 4355-614

Project Title Storm Sewers

Date APR 20/94

Is this an Amendment? Yes ☐ No ☒

Date of Previous Screening

- Instructions**
- 1 Determine if the proposal is on the IAP Exclusion list. If it is go to step 5
 - 2 Check appropriate space for each environmental feature in Part A using info from initial assessment phase
 - 3 Attach a brief description of the proposal outlining the activities to be undertaken and a description of significant impacts and mitigation plans
 - 4 Indicate the information sources used in Part B and attach a list of the references (including maps, plans etc). Indicate location of unattached referenced documents
 - 5 Indicate the screening decision recommendation by selecting one of the 10 decision codes in Part C
 - 6 Place completed form on the project file & copy the form and attachments to Environment Unit in LTS

NOTE This completed form constitutes a documented record of decision and is a legal document.

Part A Initial Screening

Summary of Effect *

Environmental Feature	U	I	S
Shoreline	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ground Water	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Surface Water	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air Quality	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Noise	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Land/Soil	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Wildlife	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Habitats	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Archaeology/Cultural	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Health & Safety	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Socio-economic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Aesthetics	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Public Concern	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

* Effects (U = Unknown, I = Insignificant, S = Significant)

If significant, is it
mitigable?

Y	N
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>
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<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Part B Information Sources

	Used	Attached
First Nation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Feasibility Study	<input type="checkbox"/>	<input type="checkbox"/>
Engineering Design	<input type="checkbox"/>	<input type="checkbox"/>
Terrain Analysis Study	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Study	<input type="checkbox"/>	<input type="checkbox"/>
Site Reconnaissance	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Published Literature	<input type="checkbox"/>	<input type="checkbox"/>
Consultations/Meetings	<input type="checkbox"/>	<input type="checkbox"/>
Correspondence	<input type="checkbox"/>	<input type="checkbox"/>
Other (specify)	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

Part C: Screening Decision Recommendation

- 0 Initial Assessment under way - no decision yet
- 1 Automatic Exclusion (Category No) - project proceeds
- 2 No significant adverse effects or public concern - project proceeds
- 3 Potentially adverse effects can be mitigated - project proceeds with mitigation
- 4 Potentially adverse effects unknown - further study (IEE) required
- 5 Ability to mitigate effects unknown - further study (IEE) required
- 6 Potentially adverse effects significant - refer proposal for public review by a panel
- 7 Significant public concern - refer proposal for public review by a panel
- 8 Automatic referral for public review by a panel
- 9 Potentially adverse effects unacceptable - proposal modified and rescreened or abandoned

Screening Decision Number

3

Recommended by

FRANK GELINAS
Project Officer/Regional Environment Unit

Signature

Date

Reviewed by

NAKAZDLI BAND

First Nation/Tribal Council

Signature

Date

Approved by

GK Beddome
Responsible Manager (RCM)

Signature

Date

Environmental Screening Record

Project No 614	Location NAK'AZDLI IR #1	Project Proposal/Description STORM SEWER	Dept INAC	Screening Decision 3
Project Title NAK'AZDLI STORM SEWER		Project Manager/Office FRANK GELINAS	Telephone [REDACTED]	Interim Decision #
Relevant Project Action 1 Stormwater Outfall		Environmental Concerns 1 Environmental 2 Erosion 3 Safety 4 Noise, dust from construction	Protective Measures Recommended 1 Contact the appropriate agency (ie Canadian Coast Guard-Navigable Water Protection Branch and Dept of Fisheries) for guidelines pertaining to working in rivers and streams 2 Construct during periods of low flows 3 Avoid the release of leachates, silts, cement or other deleterious materials during construction 4 Provide adequate siltation control measures during construction (ie filter cloth barriers, detention ponds, etc) 1 Provide rip-rap of adequate size downstream or the outfall structure 2 Provide rip-rap or sandbag bank protection downstream of the outfall structure 1 Adhere to W C B regulations 1 Minor impact No measures recommended	


REVIEW AND APPROVAL


PROJECT MANAGER/OFFICER


April 20/94
DATE

 11-5-94
REGIONAL, ENVIRONMENTAL COORDINATOR DATE

Environmental Screening Record

Project No 614	Location NAK'AZDLI IR #1	Project Proposal/Description STORM SEWER	Dept INAC	Screening Decision 3
Project Title NAK'AZDLI STORM SEWER		Project Manager/Office FRANK GELINAS	Telephone 	Interim Decision #
Relevant Project Action Storm System Construction		Environmental Concerns 1 Disturbance to Soil and Vegetation 2 Safety 3 Disturbance to residents and existing traffic patterns	Protective Measures Recommended 1 Backfill to be blended to adjoining grade as much as possible 2 Clean-up to include grading for proper drainage 3 Provide topsoil and seeding as required 1 Comply with W C B regulations 2 As a general rule, backfill as close behind pipe installation as possible 3 Provide barricades, flagging etc around trenches that are left open overnight 1 Provide residents with advance notice of the work 2 Minimize disruptions to traffic patterns Clearly mark detours, provide traffic control, flagmen, barricades, etc	

REVIEW AND APPROVAL


PROJECT MANAGER/OFFICER


DATE


REGIONAL, ENVIRONMENTAL, COORDINATOR

DATE



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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May 12, 1994

Your file Votre référence

Our file Notre référence

5010-614

Chief and Council
Nak'azdli Band
Box 1329
Fort St James, B C
VOJ 1P0

Attn Ron Sam, Band Manager

Re EARP Screening of Storm Sewers on Nak'azdli I R No 1

Enclosed is an EARP (Environmental and Review Process) screening of the above project. Federal law requires that these screenings be done to ascertain the environmental implications of projects, leases and permits which involve Federal funds and lands. The screening also identifies measures to mitigate any identified impacts.

Attached are two documents

1 IIAP Project Register and Screening Decision Summary

This form summarizes the Environmental Screening Record. The completed form is eventually sent to FEARO (Federal Environmental and Review Office) where it is compiled into a nationwide database. This form requires signatures by the DIAND Project Officer, the Band or Tribal Council, and the appropriate DIAND program manager.

2 Environmental Screening Record

This screening form is used to identify any activities which could cause environmental concerns as well as protective measures which can be undertaken to reduce any environmental effects.

- 2 -

Please review the Environmental Screening Record and the Project Register and Screening Decision Summary. If you agree with the contents, please sign the Project Register and Screening Decision Summary where indicated on the Band/Tribal Council line and return the original to the undersigned. The Environmental Screening Record is yours to keep. If you do not agree with the contents or have additional comments, please contact the undersigned as soon as possible (561-5143). If we receive no response from the Band within three weeks, it will be assumed that the Band agrees with the screening document.

Regards,



E M (Beth) Steliga
A/Environmental and Resources Clerk
Prince George District Office
#209 - 280 Victoria St
Prince George, B C
V2L 4X3

attachments



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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1 January 1994

2020-1-614

Your file Votre référence
~~4380-614~~ /
~~5600-5-1-985-614~~
5673-614

Carrier Sekani Technical Services
1460 6th Avenue
Prince George, BC
V2L 3N2

Attention. Rick Senger, E.I.T

Dear Rick

Re **Nak'azdli I R No 1**
Nak'azdli Storm Sewer Design

Thank you for your letter of December 17, 1993, received here on the 17th, requesting an encumbrance clearance for the above

I am pleased to provide for the above and state that, based on the legal description provided and noted below by ourselves, the land on which the **Nak'azdli Band Sewer Design** project is to be situated, is verified to be unencumbered Band land and to be Designated Land

As shown on sketch supplied, All within Necoslie I R No 1

This Encumbrance Clearance is provided on the **CONDITION** that a survey be conducted to delete the portion of the designated area where the storm sewer occupies

Yours respectfully,

Don W Reynierse
DISTRICT LANDS OFFICER
LAND & RESOURCES
LAND and TRUSTS SERVICES
PRINCE GEORGE DISTRICT OFFICE

c FSO & CPO, PG District DIAND

Canada



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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5 January 1994

2020-1-614 Your file / Notre référence

Our file / Notre référence

4380-614

5600-5-1-985-614

5673-614

Carrier Sekani Technical Services
1460 6th Avenue
Prince George, BC
V2L 3N2

Attention Theresa Nelson, Capital Infrastructure Coordinator

Dear Theresa

Re Nak'azdli Band 1994/1995
Necoslie I R No 1
Nak'azdli Subdivision Design

Thank you for your letter of December 14, 1993, received on the 17th, requesting an encumbrance clearance for the above

I am pleased to provide for the above and state that, based on the legal description provided and noted below by ourselves, the land on which the **Nak'azdli Subdivision Design** project is to be situated, is verified to be unencumbered Band land

As shown on Photo Map 00735, All within Necoslie I R No 1

I hope the above meets your needs

Yours respectfully,

Don W Reynierse
DISTRICT LANDS OFFICER
LAND & RESOURCES
LAND and TRUSTS SERVICES
PRINCE GEORGE DISTRICT OFFICE

c FSO & CPO, PG District DIAND

Canada



NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0

Telephone 996-7171

Fax 996-8010

September 28, 1992

Village of Fort St. James

Drawer

Fort St. James, B.C.

V0J 1P0

27657

OCT -1 A10 50

ATTENTION: Mayor Kovacs/Village Council:

Dear Mayor Kovacs:

RE: Water...Sewer Agreement:

Band Council has reviewed an invoice from the Village and have decided no payments based on the following:

- The Water and Sewer Agreement between the Band and the Village is incomplete and has been since operating on an interim base since.
- The Band Council is currently developing a first draft of taxation by-laws related to reserve infrastructure.

Since there are many new developments in Indian Country forming the basis of self governing concepts, it is best that your Council representative, Band Council representative and Department of Indian Affairs representatives draw a preliminary meeting to discuss all the issues.

We await your reply to this matter.

Call Mr. Ken Sam or the writer at 996-7171.

Sincerely,

NAK'AZDLI BAND COUNCIL

CHIEF LEONARD THOMAS

CLT/pf

cc: Ken Sam, Senior Manager
Jeff Goldie, D.I.A.
Harold Prince
C.S.T.C. Office



Province of
British Columbia

Ministry of Environment
Lands and Parks
B C LANDS
OMINECA REGION

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450-1011 Fourth Avenue
Prince George
British Columbia
V2L 3H9
Telephone (604) 565 6245
Fax (604) 565 6941

25865 AUG 20 10 27

File 7406092

92 08 18

Nak'azdli Band Council
P O Box 1329
Fort St James, B C
VOJ 1PO

Attention. Chief Leonard Thomas

Dear Chief Thomas

Re. License for Sewage Lagoon Facility

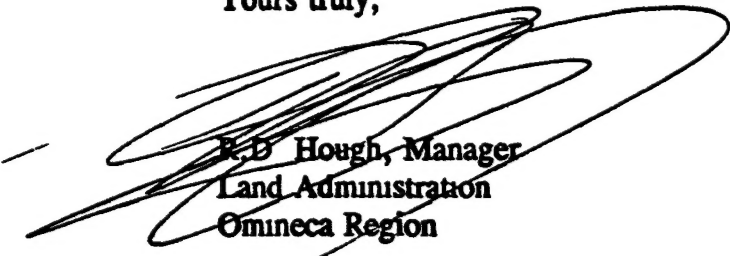
Thank you for your letter of July 2 regarding the acceptance of the license on behalf of the Band

I understand Ms Ruth Green of this office and Ken Sam are completing the details of the license Your request for Indian Reserve Status falls under the jurisdiction of Indian and Northern Affairs Canada I have taken the liberty of forwarding a copy of your request to the attention of Don Reynierse at Indian and Northern Affairs Mr Reynierse can be contacted as follows

Don Reynierse
Indian and Northern Affairs Canada
#209 - 280 Victoria Street
Prince George, B C
V2L 4X3

Thank you again for your assistance with the license documentation

Yours truly,


R.D. Hough, Manager
Land Administration
Omineca Region

/dp
cc ✓ Mr. Don Reynierse, #209-280 Victoria Street, Prince George, V2L 4X3



NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996-7171
Fax 996 8010

July 02, 1992

Ministry of Environment, Lands & Parks
Lands Operations Division
1011 - 4th Avenue
Prince George, B C
V2L 3H9

Attention Ruth Green,
Senior Examiner

Dear Ms Green

Re Licence, Your File # 7406092

In response to your licence offer dated June 19, 1992 On behalf
of the Band we hereby accept the offer as of today, July 02,
1992

We will be submitting to you all the fees payable as soon as
possible, I presume by July 30, 1992

The Band also advises that we hereby request your Ministry that
the lands prescribed be designated to Indian Reserve status
immediately

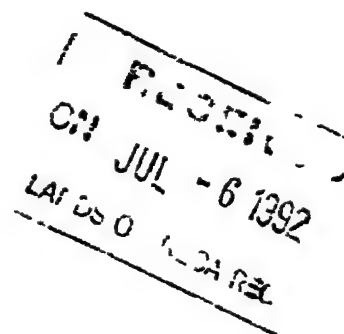
Should you have any questions, call Ken Sam or myself

Sincerely

NAK'AZDLI BAND COUNCIL

for Karen Leon
CHIEF LEONARD THOMAS

p c Andrew Petter, Minister of Native Affairs





Health and Welfare
Canada

Santé et Bien-être social
Canada

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4380-614

14 April 30/92

SL

Public Service Health
North East District
#409, 280 Victoria Street
Prince George, BC
V2L 4X3

20736

APR 28 P4:11

April 27, 1992

Your file Votre référence

Our file Notre référence

150-5-12
Necoslie

Mr. Leonard Thomas
Chief Councillor
Nak'Azdli Band
P.O. Box 1329
Fort St. James, BC
V0J 1P0

Dear Leonard:

RE: Housing: Ms. Florence Prince

Consequent to a request from the community health representative, a visit to and inspection of the a/m premises was completed Thursday, April 23, 1992. By way of background information the occupant, Ms. Prince, is an elder and has, reportedly, a history of episodic upper respiratory events. The house is estimated to be at least 20 years old.

On the day of inspection, the crawl space was observed to be flooded to within 20 cm of joists and flooring. Local information indicates that this is an annual occurrence. The flood water effused a distinct sewage odour. No obvious breakages or leakages were observed in the subfloor plumbing. One conclusion could be that there is inadequate peripheral drainage to accommodate surges due to spring runoff.

In itself, the flooded crawlspace does not present an explicit health hazard. However, one can anticipate that with the increase in evapo moisture in the house, upper respiratory tract distress will be exacerbated particularly for sensitive sufferers such as the elderly. Ms. Prince has reported increased discomfort. In the opinion of the investigating officer, an implicit health hazard exists. Would you therefore implement suitable corrective measures to eliminate any health hazard conditions as soon as possible.

Please feel free to contact the environmental health officer if you have any questions or if we can be of further assistance.

Yours truly,

Paul Baird

Iain Baird
Senior Environmental Health Officer

cc: ~~Mr. Radloff, PRC~~
J. Anderson, CHN

Canada

A0429737_12-000012



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l'information
Stanley Associates Engineering Ltd
#212 - 556 N. Nechako Rd
Prince George, B.C. V2K 1A1
Phone (604) 562-8261
Fax (604) 564-0338

February 3, 1992

K. Kristianson and Son Kontractors
Box 941
VANDERHOOF, B.C.
VOJ 3A0

17093

FEB -7 AM 31

Attention Mr. K. Kristianson

Re Nak'azdlı Band
Cast In Place Septic Tank

Dear Sir

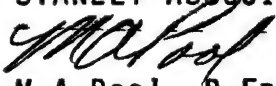
Under the terms of this contract, the "holdback"
will be released after the following conditions
have been met

- a construction completion certificate has been issued
- the required Workers' Compensation Board letter has
been received
- the required statutory declaration has been received.

It is our understanding that the Owner has already
released the "holdback" for this contract without any
of the above conditions being met.

Please forward to the Band and to me as soon as possible
the required Workers' Compensation Board letter and
the required statutory declaration.

Yours very truly,
~~STANLEY ASSOCIATES ENGINEERING LTD.~~


M.A. Pool, P. Eng.

CC Nak'azdlı Band - Mr. K. Sam
Carrier Sekani Tribal Council - Mr. J. Spencer
DIAND Technical Services - Mr. R. Radloff

TELEX / DEX COMMUNICATION FORM
Formulaire de communication pour DEX / TELEXPriority
Priorité ☒ High
Élevée ☐ Medium
Moyenne ☐ Low
Faible

Page 1 of 2

To - A
Ken Sam
Nak'azdli Band
690-7316From - De
Bob Radloff

Branch - Direction PWC	Division	Program Code - Code de programme
Director General - Directeur général	Director - Directeur	Return to room no - Retourner à la pièce

Ken

Further to our meeting with you at Ramsay Nose, we have had the data regarding septic tank failure reviewed by our inhouse staff. It is obvious from our cursory review that the tank is not sufficiently strong for the depth it was buried. It is our opinion, based on the proposal submitted to the Band by Stanley and based on normal standards of Engineering practice, that responsibility for the tanks failure rests most exclusively with Stanley Associates. Some reasons for this opinion include

- SAEC's proposal states that they are to be responsible for all technical aspects of the construction. An "experienced" project manager was selected by SAEC for this purpose. He was to be the leader of the project team.
- Full time on site supervision was insisted upon by SAEC to assure quality of workmanship. This was agreed to and paid for by the Band.
- The septic tank was inspected by SAEC prior to and during installation. The current depth of burial was noted by SAEC to be 10+ feet during our discussion with them October 3, 1991 at your office. This exceeded the maximum depth of bury stamped on the tank. It proves later, the tank stamped maximum depth 9' should in fact read maximum depth 6'. Regardless the stated maximum was exceeded.
- The Band was advised by SAEC (verbally) what tank to purchase. SAEC contends they provided the concrete tank supplier with drawings via the Band. The Band was to provide the appropriate tank based on these drawings. Having reviewed the drawings at your request we note that nowhere is the depth of bury of the tanks shown. How then can the supplier be aware of depth requirements. (Having said that however, we do question why the supplier does not specifically ask what depth of application is proposed.)

If further space is required please use a second page - Si cet espace est insuffisant veuillez utiliser une deuxième feuille

Message prepared by - Message rédigé par

Telephone no - N° de téléphone

Signature of person authorizing message - Signature de la personne autorisant l'envoi du message




Date

A0429737_14-000014



TELEX / FAX COMMUNICATION FORM
Formulaire de communication pour FAX / TELEX

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FAX no - N° de FAX		Telephone no - N° de téléphone		Page 2	of 2
To - A  Ken Sam Nak'azdli Band 690-7316					
From - De 					
Branch - Direction		Division		Program Code - Code de programme	
Director General - Directeur général		Director - Directeur		Return to room no - Retourner à la pièce	
<p>d) Cont</p> <p>Despite our discussions at Ramsay Nose', we do not feel further technical evaluation of the tanks is warranted beyond what we have done inhouse This especially since SAEC have agreed the tanks were underdesigned for the application Further structural analysis would add more cost and in our view would thereby reduce the chance of a settlement The real issue at this point is who was responsible for the technical decision related to the tanks installation which we feel we have addressed above</p> <p>We trust this analysis will assist you</p> <p>A'wed'za</p> <p>BOB RADLOFF</p>					
 If further space is required please use a second page - Si cet espace est insuffisant veuillez utiliser une deuxième feuille					
Signature of person authorizing message - Signature de la personne autorisant l'envoi du message				Telephone no - N° de téléphone	
				Date	



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NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996-7171

September 20, 1991

Department of Indian Affairs Canada
District
209 - 280 Victoria Street
Prince George B C
V2L 4X3

Attention Mr Bob Radloff

Dear Bob,

RE: Stanley & Associates Ltd.

Enclosed please find a copy of the letter from Stanley & Associates Engineering Ltd which I had promised to forward to your office

Sincerely,

NAK'AZDLI BAND COUNCIL

for A Antone
KEN SAM
Senior Manager

KS/kal

Enclosure

11622

SEP 23 AMO 45



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Stanley Associates Engineering Ltd
#212 - 556 Nechako Rd
Prince George, B.C. V2K 1A1
Phone (604) 562-8261
Fax (604) 564-0338

April 15, 1991

File 98-998

Nak'azdli Band

P O. Box 1329

Fort St James, B C.

V0J 1P0

Attention: Mr. Ken Sam

Dear Sir

Reference. Proposal for Providing Consulting Services for
1991 Williams Prairie Meadow Construction

Stanley Associates Engineering Ltd is pleased to present this letter proposal for providing consulting engineering services for the 1991 Nak'azdli Band construction program

We have prepared this proposal based on our understanding of the project requirements as discussed with John Spencer and yourself. The following sections describe our understanding of the engineering services required, the proposed work plan, proposed project team and their qualifications, proposed schedule and fees.

1.0 SCOPE OF WORK

The design of the Williams Prairie Meadow subdivision servicing project was completed in 1990 by Stanley Associates Engineering Ltd (SAEL). In 1990 the Band hired a construction manager and completed construction of the water supply, storage and

distribution system. The Band also installed temporary holding tanks for each of the existing 6 homes. These holding tanks made it possible for the residents to use the water distribution system and their domestic plumbing until a sewage collection and disposal system could be constructed in 1991.

SAEL has made application for Crown Land on which to construct the lagoon facility on behalf of the Band. Ministry of Crown Lands has indicated that at this time they see no reason why the application would be turned down. They expect to approve the application on or before April 26, 1991.

We understand it is the Band's intention to clear the lagoon area, lagoon access road and sewer service lines with Band forces. The Band intends to "contract out" construction of the sewage collection system, sewage forcemain, lagoon facility, road works and installation of the lift station.

In order to facilitate early completion of the project, SAEL are prepared to pre-order the lift station during the tender period. As lift stations normally require 6 to 8 weeks delivery time, pre-ordering the lift station will save at least 4 weeks on the completion date of the sewage collection system.

For this work, engineering services required would include lift station ordering, tendering of "contract out" construction, survey layout, resident inspection, as-built surveys and drawings, technical advisory services, operation and maintenance manual, CAIS reports and a project completion report.

2 0 PROJECT TEAM

Stanley Associates has B.C. offices in Kamloops, Kelowna, Vancouver, Victoria and Prince George. Over the past several years, the company has provided consulting engineering services to many large and small communities in the fields of sewage collection and disposal, water supply and distribution and road construction.

We have found that the formation of a project team provides the best approach to our assignments. The team is headed by a Project Manager who is a senior engineer with experience relevant to the particular assignment. The Project Manager is responsible for direction of the project team, control of technical standards, schedule and budget, and ensures that the client is kept informed of progress and that their requirements are met. The project team we propose for this assignment consists of the following key personnel:

Project Manager	-	E. L. Wiens, P. Eng.
Technical Advisor	-	M. A. Pool, P. Eng.
Resident Inspector	-	T. K. Lockwood

Detailed resumes of these key team members are attached, and a brief summary of their proposed duties, qualifications and related experience follows:

Project Manager - E. L. Wiens, P. Eng.

Mr. Wiens is the Manager of Stanley's Prince George office. He is experienced in municipal engineering and project management. Mr. Wiens has worked with the Nak'azdli Band while employed with the CSTC and has since been project manager for the design and 1990 construction of the Williams Prairie Meadow project.

Mr. Wiens will be responsible for the administration duties of liaison, budget and schedule control, as well as overall technical project responsibilities. His experience in preparing tender and contract documents and in construction administration make him well suited for this assignment.

Technical Advisor - Mrs. M. A. Pool, P. Eng.

Mrs. Pool is a senior engineer in our Prince George office with over 20 years experience providing engineering services on municipal water and sewer projects. Her extensive knowledge and experience in design, construction and inspection of water supply, treatment and distribution systems, sewage collection, treatment and disposal systems and road construction will be available as needed. It should be noted that Mrs. Pool undertook most of the design of the Williams Prairie Meadow project.

Resident Inspector - T. K. Lockwood

Mr. Lockwood is a senior technician out of our Prince George office with over 25 years experience in survey, construction supervision and inspection for municipal projects, including recent experience inspecting and constructing water and sewer mains, sewage lift stations and storage reservoirs.

Of note, is that Mr. Lockwood recently provided resident services on the 1990 Williams Prairie Meadow construction. He has also worked on projects similar to this assignment for both the Stellaquo Indian Band and Tl'azt'en Nation and has undertaken substantial work on construction throughout the Interior.

Mr Lockwood will provide the resident inspection services, including survey layout and as-built surveys. He will determine progress payment quantities and prepare progress payment documentation, if needed.

Other project team members would include drafting and clerical staff located in our Prince George office. A survey helper will also be required and this person could be provided either by Stanley Associates or by the Band.

3.0 WORK PROGRAM

The work program proposed consists of three phases:

- Tender Period
- Construction Period
- Completion Period

The project will commence with an initial onsite meeting with the Project Manager, Band representatives and CSTC advisor to confirm the construction scope, methods of construction and project schedule.

Following authorization from the Band, SAEI will pre-order the lift station and prepare tenders for the work to be "contracted out". Tender will be prepared, received in our Prince George office and reviewed, followed by a written recommendation on award and, upon authorization by the Band, preparation of the contract documents. At this time we anticipate two tenders: sewage collection, forcemain and lift station, and lagoon facility and roadworks. However, if the Band prefers, we could prepare one tender for the entire project.

Once the lagoon area is dry enough that the Band can begin clearing, SAEL will flag the lagoon area and sewer services which are to be cleared.

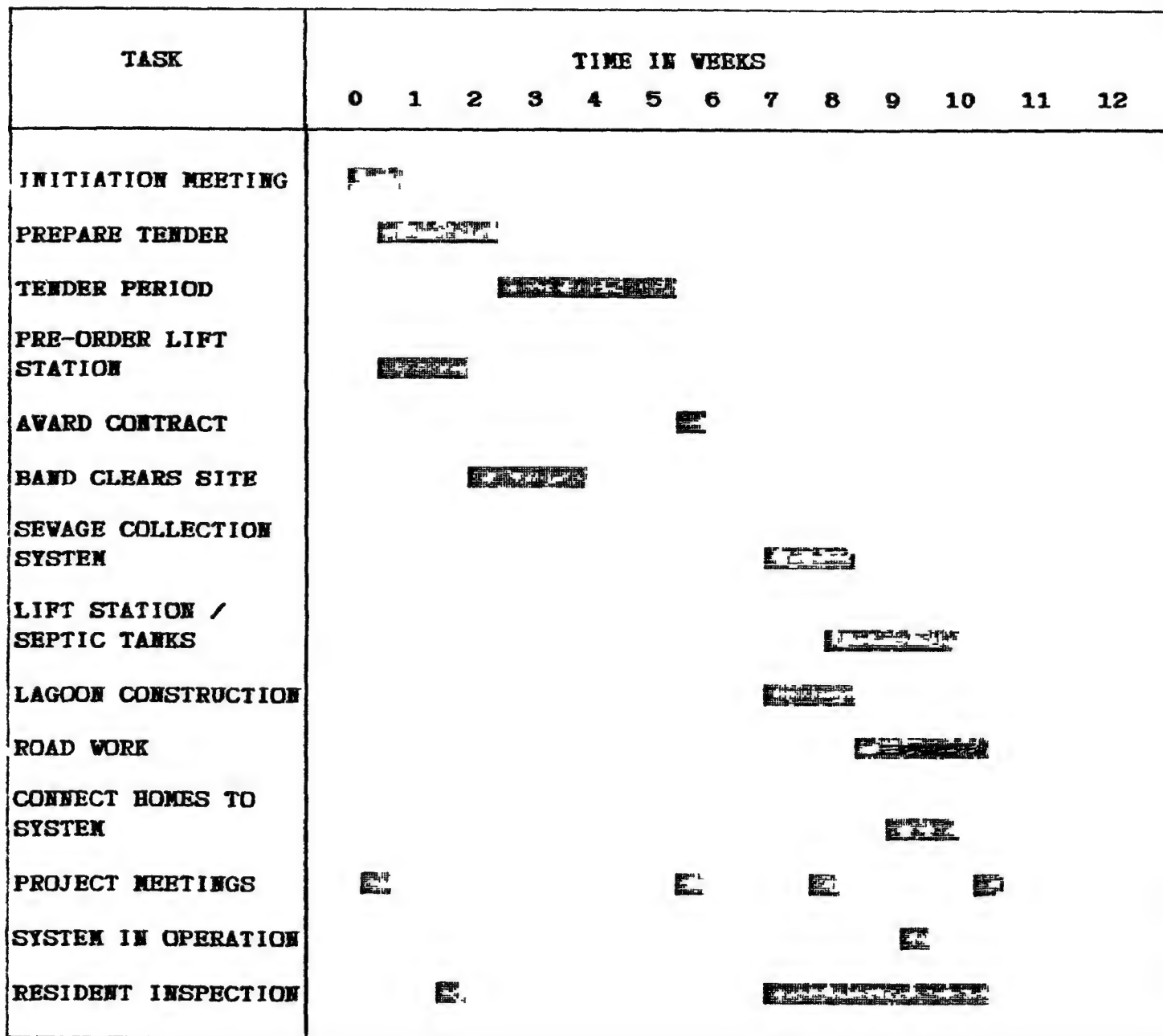
The construction phase will commence with an initial onsite meeting with the Project Manager, Resident Inspector, Contractors, Band representatives, Tribal and INAC officials to confirm the construction scope, methods and constraints. The Resident Inspector will, with a survey helper, provide survey layout for construction. He will provide onsite technical advisory services, inspection and will record as-built information and quantities for progress payments. Regular meetings with the Band and contractors will be arranged, with written minutes, during the construction period. At this time we anticipate 3 such project meetings.

Upon completion of construction, as-built drawings, operational and maintenance manuals and project completion reports will be prepared.

Depending upon the construction scheduling for the various components, the three phases are expected to overlap to some extent.

4.0 SCHEDULE

Stanley Associates is prepared to commence work on this assignment upon receiving authorization to proceed. Every effort will be made to coordinate construction schedules for the various components to efficiently utilize travel costs and resident inspection time. Figure 1 shows a proposed project schedule.



PROJECT SCHEDULE

Figure 1

5 0 FEES

Based on the work program we have summarized in Section 3, we have estimated fees as follows. Fees for personnel will be charged at the hourly rates listed below and expenses will be charged at cost. Disbursement expenses will include travel and subsistence, photocopying and printing, long distance telephone, postage and delivery, word processing and living and vehicle allowance for the resident inspector.

<u>Per Diem and Hourly Rates</u>	<u>\$/hr</u>
Project Manager	\$68 00
Technical Specialist	\$74 00
Resident Inspector	\$48.00 <i>most at \$55/hr</i>
Draftsman	\$48.00 <i>?</i>
Clerical	\$32.00 <i>?</i>

Overtime will be invoiced at normal hourly rates

Disbursements

Living Out Allowance	\$400/week.
Vehicle Allowance	\$185/week
(applies to Resident Inspector).	

A summary of our estimated time and disbursement allocations follows

	<u>DAYS</u>	<u>AMOUNT</u>
a) Initial Meeting		
- Project Manager (ELW)	1.0	\$ 544 00
- Disbursements		116.00
		<hr/>
		\$ 660 00 <i>22</i>

b) Tender Period

- Project Manager (ELW)	1 0	\$ 544 00
- Technical Specialist (MAP)	3 0	1,776 00
- Clerical	3.5	896.00
- Disbursements, including on site meeting		600 00

\$ 3,816.00 ✓

c) Construction Period

- Project Manager (ELW)	3.0	\$ 1,632 00
- Technical Specialist (MAP)	1.0	592.00
- Resident Inspector (TKL)	23 0	11,040 00
- Clerical	1 0	256 00
- Disbursements		
- Resident Inspection, 60 days		2,525 00
- Miscellaneous		500 00

\$16,545 00

d) Completion Period

- Project Manager (ELW)	4 0	\$ 2,176 00
- Drafting	3 5	1,344 00
- Clerical	2.0	512 00
- Disbursements		750 00

\$ 4,782 00

It should be noted that during the tender period we have assumed the Band will pay directly for any tender advertisements

Stanley Associates propose to provide consulting engineering services for this assignment, as detailed above, on the following basis

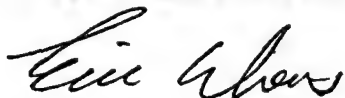
- a) Initial meeting and tender period, fixed fee \$4,400 00
- b) Construction Period, assuming 23 days (including flagging area to be cleared and a 1 day final inspection after cleanup) of resident inspection, including survey layout and as-built survey Estimate, including disbursements is \$16,545 00 If additional time is required, fees would be invoiced as detailed above.
- c) Completion Period, including as-built drawings, operation and maintenance manuals, CIAS and completion reports, fixed fee of \$ 4,800 00

The fees for the construction period have been estimated assuming that a survey helper will be provided by the Band We are prepared to provide a survey helper from our staff at the Band's request Per diem rate for a survey helper from our staff would be \$ 250 00 per day, including living allowance

We trust this proposal meets with your approval and look forward to working with you on this interesting assignment If you have any questions or require more information, please do not hesitate to contact the writer

Yours Truly,

STANLEY ASSOCIATES ENGINEERING LTD



E L Wiens, P Eng
District Manager

ELW/ljw

P C John Spencer, CSTC



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l'information

Stanley Associates Engineering Ltd
#212 - 556 N. Nechako Rd
Prince George B.C. V2K 1A1
Phone (604) 562-8261
Fax (604) 564-0338

10222 AUG 15 AIO 41

August 13, 1991
File: 90-334-01-01

Nak'azdli Band
P.O.Box 1329
Ft. St. James, B.C.
V0J 1P0

Attention: Mr. Ken Sam

Re: Williams Prairie Meadow
Sewage Lagoons
Compaction Test Results

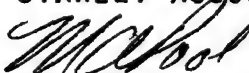
Enclosed are compaction test results for the berms
for the sewage lagoons at Williams Prairie Meadow
taken July 31 and August 9, 1991.

The August 9 results are somewhat better than the
previous results for the area between Cell 1 and 2
and northeast corner of Cell 1. The results for the
north side of cell 2 are still low, however this
berm is extra wide as the outer face was used for
depositing waste material, as was the north side of
Cell 3.

The low results at the west side of cell 1, and
northwest corner of cell 1 are not of concern as
this area is in cut.

In general, the rather low compaction results will
mean that within the next few years, the Band should
consider topping and trimming these berms, as settlement
occurs.

Yours truly,
STANLEY ASSOCIATES ENGINEERING LTD.


M.A.Pool, P.Eng.

CC: J.Spencer - CSTC
B.Radloff - INAC ✓

HARDY BBT LIMITED
PRINCE GEORGE, B.C.

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**MOISTURE - DENSITY
RELATIONSHIP REPORT**

Ann Pool

Stanley Associates Engineering Ltd.
212 - 556 North Nechako Road
Prince George, B.C.
V2K 1A1

PROJECT NO: KX01003
DATE: 91.Aug.07
CLIENT P.O.:
CC:

PROJECT: William Prairie I.P. - Sewage Lagoons
Fort St. James, B.C.

COMPACTION STANDARD - STANDARD PROCTOR ASTM D698

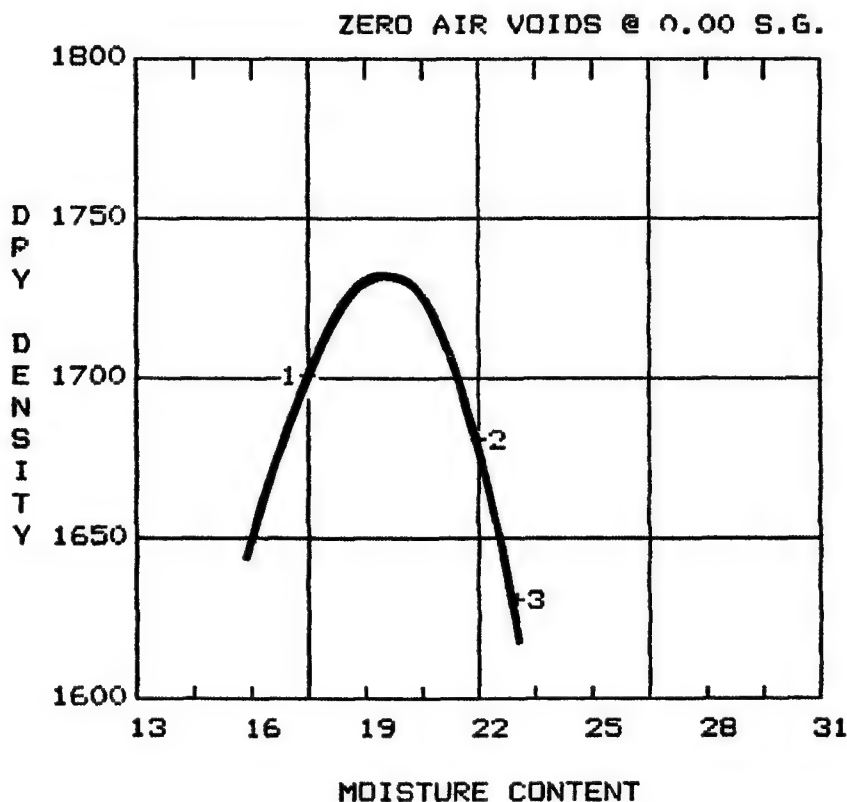
METHOD - A

WET DENSITY kg/m ³	2002	2050	2001	1934			
Dry DENSITY kg/m ³	1704	1679	1626	1513			
MOISTURE CONTENT %	17.5	22.1	23.1	27.8			

MAXIMUM DRY DENSITY - 1730 kg/m³

SOURCE: Native

OPTIMUM MOISTURE - 19.3 %



DATE SAMPLED: 91.Jul.31
SAMPLED BY: J.F.
DATE RECEIVED: 91.Jul.31
PROCTOR NO.: 1

PAMMER TYPE: MANUAL
PREPARATION: MOIST
PERCENT RETAINED:
4.75 mm SCREEN
19.0 mm SCREEN

SOIL DESCRIPTION:

CLAY - trace gravel, trace
sand, brown, moist

COMMENTS:

HARDY BBT LIMITED - PEP:



Hardy BBT Limited

CONSULTING ENGINEERING & PROFESSIONAL SERVICES

s.19(1)

FIELD DENSITY REPORT

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l'information

OFFICE Prince George

PROJECT NO KX01003

CLIENT

COPIES TO

TO Stanley Associates Engineering Ltd
212 - 556 North Nechako Road
Prince George, B C
V2K 1A1

Attention Anne Pool

PROJECT William Prairie I R - Sewage Lagoons

PAGE 1 of 1

CONTRACTOR

TEST LOCATION Top of Berm

TYPE OF CONSTRUCTION

DATE TESTED July 31, 1991

TEST No	LOCATION	TEST DEPTH (mm)	MOISTURE CONTENT (%)		DRY DENSITY (kg/m ³)		PERCENT MAXIMUM DENSITY
			FIELD	OPTIMUM	FIELD	MAXIMUM	
1	Southeast Corner - Cell 1	250	27.4	19.3	1460	1730	84.5
2	East Side - Cell 3	250	21.7	19.3	1570	1730	90.8
3	North Side - Cell 3	250	21.7	19.3	1545	1730	89.3
4	North Side - Overflow Cell	250	21.7	19.3	1545	1730	89.3
5	North Side - Cell 2	250	24.8	19.3	1535	1730	88.7
6	East Side - Cell 2	250	18.3	19.3	1665	1730	96.2
7	North East Corner - Cell 1	250	17.7	19.3	1670	1730	96.5
8	Between Cell 1 and 2	250	22.3	19.3	1450	1730	83.8
9	West Side - Cell 2	250	14.2	19.3	1690	1730	97.8
10	West Side - Cell 1	250	14.8	19.3	1650	1730	95.4

FIELD METHOD

☐ ASTM D2167 BALLOON

☒ ASTM D2922 NUCLEAR

☐ ASTM D1556 SAND CONE

LABORATORY METHOD

☒ ASTM D698
STANDARD PROCTOR

☐ ASTM D1557
MODIFIED PROCTOR

☐ ONE POINT PROCTOR AT
EXISTING FIELD MOISTURE
UTILIZING ASTM D698

COMMENTS

Per

Reporting of these test results constitutes a testing service only. Engineering interpretation or evaluation of the test results is not provided unless specifically requested.

**Hardy BBT Limited**

CONSULTING ENGINEERING & PROFESSIONAL SERVICES

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l'information

FIELD DENSITY REPORT

TO Stanley Associates Engineering Ltd.
212 - 556 North Nechako
Prince George, B.C.
V2K 1A1

OFFICE Prince George

PROJECT NO. KX01003

CLIENT

COPIES TO

PROJECT William Prairie I.R. - Sewage Lagoons

PAGE 1 of 1

CONTRACTOR

TEST LOCATION: Top of Berm

TYPE OF CONSTRUCTION

DATE TESTED August 9, 1991

TEST No	LOCATION	TEST DEPTH (mm)	MOISTURE CONTENT (%)		DRY DENSITY (kg/m ³)		PERCENT MAXIMUM DENSITY
			FIELD	OPTIMUM	FIELD	MAXIMUM	
1	Northwest Corner - Cell 1	250	13.6	19.3	1690	1730	97.7
2	Between Cell 1 & 2 (West Side)	250	20.7	19.3	1615	1730	93.4
3	West Side - Cell 2	250	15.5	19.3	1730	1730	100.0
4	North Side - Cell 2	250	22.7	19.3	1565	1730	90.5
5	West Side - Overflow Cell	250	23.9	19.3	1505	1730	87.0
6	North Side - Overflow Cell	250	17.4	19.3	1585	1730	91.6
7	North Side - Cell 3	250	23.0	19.3	1545	1730	89.3
8	Northeast Corner - Cell 3	250	19.5	19.3	1575	1730	91.0
9	Between Cells 1 & 2 (East Side)	250	16.4	19.3	1735	1730	100.0
10	Northeast Corner - Cell 1	250	11.3	19.3	1730	1730	100.0

FIELD METHOD-

☐ ASTM D2167 BALLOON☒ ASTM D2922 NUCLEAR☐ ASTM D1558 SAND CONE

LABORATORY METHOD

☒ ASTM D698☐ ASTM D1557☐ ONE POINT PROCTOR AT

STANDARD PROCTOR

MODIFIED PROCTOR

EXISTING FIELD MOISTURE
UTILIZING ASTM D698

COMMENTS = All Tests Taken at Top of Berm.

Per

Reporting of these test results constitutes a testing service. No guarantee is made or evaluation of the test results is provided only on written request.

A0429737_30-000030



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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August 08, 1991

Your file Votre référence

E4355-614 E4380-614

Our file Notre référence

E5673-3-614-07539

Chief and Council
Nak'azdli Band
Box 1329
Fort St. James, B. C.
VOJ 1P0

Dear Chief and Council

RE: PROVINCIAL PERMIT/LICENSE NO. 7406092
 SEWAGE LAGOON - WILLIAMS PRAIRIE MEADOW I.R. NO. 1A

I am pleased to inform you that we have received a copy of the Insurance Certificate (Laurentian Pacific) for the above and am enclosing a copy of same to those carbon copied below for their records.

I do note that no seal/stamp engineering drawings have been received which is an additional condition of the Permit (License of Occupation).

I thank you for the above Certificate and await originals of the stamped drawings from Stanley and Associates.

Yours truly,

DON W. REYNIERSE
DISTRICT LANDS OFFICER
LANDS, REVENUES & TRUSTS
PRINCE GEORGE FIELD OFFICE
209 - 280 Victoria Street
Prince George, B. C.
V2L 4X3

Attachment

cc Stanley & Associates, Prince George, B.C.
 Bob Radloff, DPW, DIAND, Prince George, B.C.
 Band Support and Capital Management, Prince George, B.C.
 John Spencer, Carrier Sekani Tribal Council, Prince George, B.C.
 Ministry of Lands & Parks, Prince George, B. C.
 Roy Neuenfeldt, B.C. Rail, North Vancouver, B. C.

Canada



s.19(1)

1140 West Pender Street P O Box 21 Vancouver, British Columbia V6E 4G1
Telephone (604) 669-4247

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08877 116 A10.30

CERTIFICATE OF INSURANCE

To HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA AS REPRESENTED BY
THE MINISTRY OF LANDS & PARKS, AND B.C. RAIL LTD

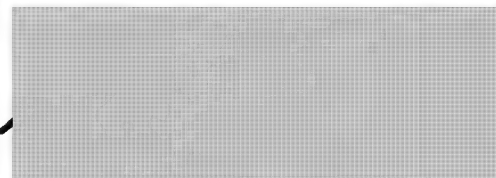
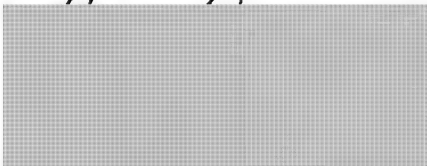
THIS IS TO CERTIFY that Insurance policy No 1123149 expiring June 28, 1992
has been issued by the Company indicated above to NECOSLIE BAND COUNCIL
(Name of Insured)

COVERAGES	LIMITS OF LIABILITY	
Bodily Injury Liability and Property Damage Liability Inclusive	Each Occurrence \$ 1,000,000	Aggregate Products each Policy Year \$ 1,000,000.
Bodily Injury Liability	Each Person \$ Each Occurrence \$	Aggregate Products each Policy Year \$
Property Damage Liability	Each Occurrence \$	Aggregate Products each Policy Year \$
ENDORSEMENT A - ADDITIONAL INSURED - HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF BRITISH COLUMBIA AS REPRESENTED BY THE MINISTRY OF LANDS & PARKS, AND B.C. RAIL LTD.		
OPERATIONS COVERED EXCAVATING AND SNOW REMOVAL CONTRACTOR		
Subject to the terms, conditions and exclusions of the policy		

The undersigned hereby certifies that the above policy is now in force and it is hereby agreed that if the said policy is cancelled or changed during its term in such a manner as to affect this certificate, ten days prior written notice of such change or cancellation will be given by us, by letter mailed to you at the above address

Countersigned

Signature



Date

R.P. Vickerstaff
PRESIDENT & CHIEF OPERATING OFFICER

A0429737_32-000032



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ENDORSEMENT

#2

COM
63

s.19(1)

AGENCY BARTON INSURANCE BROKERS LTD.				AGENCY No 0400058	
INSURER LAURENTIAN PACIFIC INSURANCE COMPANY				POLICY No 1123149	
INSURED NECOSLIE BAND COUNCIL					
EFFECTIVE DATE OF ENDORSEMENT	EXPIRATION DATE OF POLICY	OLD RATE(S)	NEW RATE(S)	ADDITIONAL PREMIUM	RETURN PREMIUM
June 30, 1991	June 28, 1992	—	—	—	—

In consideration of the payment of an Additional Premium or Return Premium as stated above this Policy is amended as follows

COMPREHENSIVE GENERAL LIABILITY

IT IS HEREBY UNDERSTOOD AND AGREED THAT Endorsement A - Additional Insured is added to the policy as per wording attached.

Signature of Insured
(Required where coverage deleted or reduced)

Except as otherwise provided in this Endorsement all terms provisions and conditions of the policy shall apply and effect This Endorsement is not valid unless signed by an authorized representative of the Insured

July 3/91 bs

B

P

A0429737_33-000033

Authorized Representative



ENDORSEMENT

A

ADDITIONAL INSURED


IT IS HEREBY UNDERSTOOD AND AGREED THAT the Policy is extended to cover
the following named as an Additional Insured

HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE
OF BRITISH COLUMBIA AS REPRESENTED BY THE MINISTRY
OF LANDS & PARKS, AND B.C. RAIL LTD.

but only insofar as their legal liability arises out of negligent operations
of.

NECOSLIE BAND COUNCIL

but only with respect to Construction of a Sewage Lagoon (File No. 7406092)

ATTACHED TO AND FORMING PART OF POLICY NO. 
OF THE LAURENTIAN PACIFIC INSURANCE COMPANY

AGENT BARTON INSURANCE BROKERS LTD.



Province of
British Columbia

Ministry of
Lands and Parks
B.C. LANDS DIVISION
OMINECA REGION

Released under the Access
to Information Act
308-1011 Fourth Avenue
Prince George
British Columbia
V2L 3H9
Telephone (604) 565-6245

Our File: 7406092

91.06.21

08163 .114 -2 P157

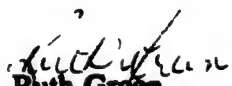
Ronald Prince, Leonard Thomas
and Robert Antione
Nak'Azdli Band of Indians
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

Dear Sirs:

We are pleased to enclose your License No. 702739, covering that part of District Lot 4111, Range 5 Coast District and containing 16.2 hectares more or less, issued in the name of **RONALD PRINCE, LEONARD THOMAS and ROBERT ANTIONE as Trustees for THE NAK'AZDLI BAND OF INDIANS** dated June 4, 1991 and issued for a term of one (1) year for construction of a sewage lagoon purposes, duly executed on behalf of the Minister of Lands and Parks.

Please call if we can be of further assistance.

Yours truly,


Ruth Green
Senior Examiner
Omineca Region

RG/sk
Enclosures

cc: Surveyor General Branch, Victoria
Regional District of Bulkely-Nechako
B.C. Assessment Authority, Prince George
Ministry of Forests, Fort St. James
Indian and Northern Affairs, Prince George ✓
Village of Fort St. James

Province of British Columbia
Ministry of Lands and Parks

Legal Description Schedule

Use No

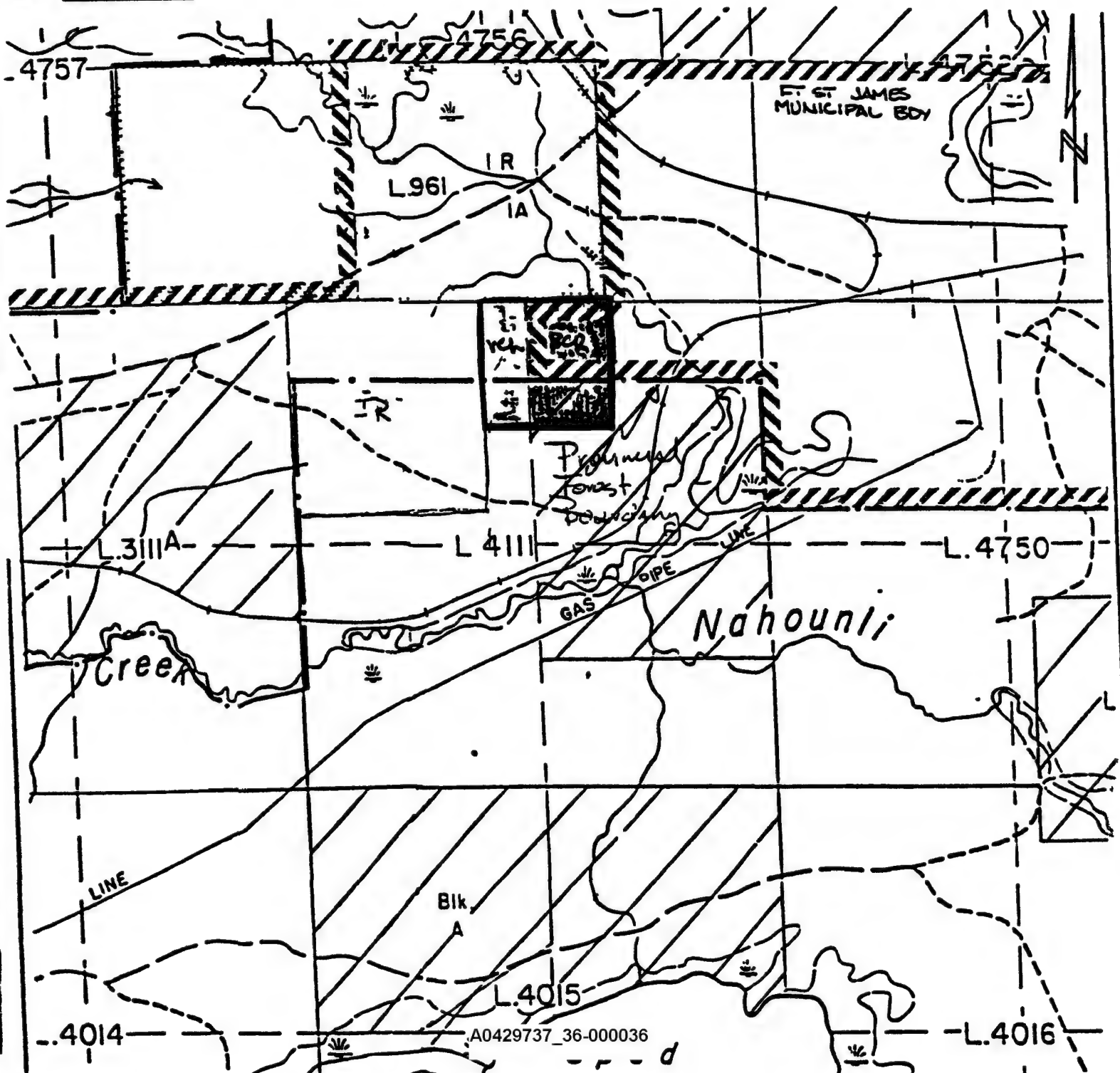
702739

File No. 7406092

1. Legal Description

That part of District Lot 4111, Range 5 Coast District, as shown outlined in red on the sketch attached and containing 16.2 hectares, more or less.

2. Sketch Plan

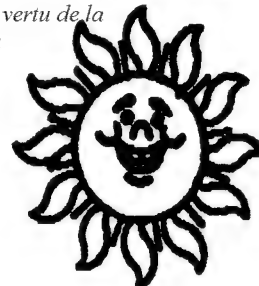




MINISTRY OF LANDS AND PARKS
BC LANDS DIVISION
OMINECA

#308 - 1011 4TH AVENUE
PRINCE GEORGE, B.C. V2L 3H9
PHONE: 565-6245
FAX: 565-6941

Communiqué en vertu de la
Loi sur l'accès à
l'information



TO: don Syme

AT: Indian & Northern Affairs



FAX # 581-5418

TOTAL NUMBER OF PAGES INCLUDING THIS ONE:

11

RECEIVED

As per your request

08571 III-9 P322

FROM:

Lisa Green
(in Training)

Province of
British Columbia Ministry of
Lands and Parks**License of Occupation**

License No

702739

File No. 7408092

THIS AGREEMENT dated for reference the 4th day of June, 1991.

IN PURSUANCE of the LAND ACT (Section 36).

BETWEEN:

HER MAJESTY THE QUEEN IN RIGHT OF THE
PROVINCE OF BRITISH COLUMBIA, represented
by the Minister of Lands and Parks,
Parliament Buildings, Victoria, British Columbia

(hereinafter called the "Owner")

OF THE FIRST PART

AND:

RONALD PRINCE, LEONARD THOMAS, AND ROBERT ANTIONE, as trustees for THE
NAK'AZDLI BAND OF INDIANS
Box 1329
Fort St. James, British Columbia
VOJ 1P0

(hereinafter called the "Licensee")

OF THE SECOND PART

WITNESS THAT WHEREAS the Owner has agreed to grant to the Licensee a license over
that parcel of land described in the schedule attached entitled Legal Description (herein-
after referred to as the "Land");

NOW THEREFORE in consideration of the fee to be paid by and the covenants of the
Licensee, the parties agree as follows.

(1.01) The Owner, on the terms set forth herein, hereby grants to the Licensee a license
to enter on the Land for construction of a sewage lagoon purposes

(2.01) The duration of the license and the rights herein granted shall be for a term of
1 year commencing on the 4th day of June, 1991 (hereinafter called the "Com-
mencement Date") unless cancelled in accordance with the terms hereof.

License of Occupation

Loi sur l'accès à l'information
File No. 7408092

(3.01) The Licensee shall pay to the Owner, in advance, on the Commencement Date, the license fee as prescribed in the attached Fee Schedule.

(4.01) The Licensee covenants with the Owner

- (a) to pay the license fee due at the address of the Owner first above written or at such other place as the Owner may specify from time to time;
- (b) to pay and discharge when due all applicable taxes, levies, charges and assessments now or hereafter assessed, levied or charged which relate to the Land or any improvements thereon (herein called "Realty Taxes") which the Licensee is liable to pay;
- (c) to observe, abide by and comply with all applicable laws, bylaws, orders, directions, ordinances and regulations of any competent government authority in any way affecting the Land and improvements situate thereon, or their use and occupation;
- (d) not to commit or suffer any willful or voluntary waste, spoil or destruction on the Land or do or suffer to be done thereon anything that may be or become a nuisance or annoyance to the owners or occupiers of adjoining land;
- (e) to deliver to the Owner from time to time, upon demand, proof of insurance provided for in subsection (k), receipts or other evidence of payment of Realty Taxes, insurance premiums and other monetary obligations of the Licensee required to be observed by the Licensee pursuant to this license;
- (f) to indemnify and save the Owner harmless against all losses, damages, costs and liabilities, including fees of solicitors and other professional advisors arising out of:
 - (i) any breach, violation or non-performance of any covenant, condition or agreement in this license by the Licensee,
 - (ii) any personal injury, death or property damage occurring on the Land or happening by virtue of the Licensee's occupation of the Land, and the Owner may add the amount of such losses, damages, costs and liabilities to the license fee and the amount so added shall be payable to the Owner immediately;
- (g) to keep the Land in a safe, clean and sanitary condition satisfactory to the Owner and to make clean and sanitary any portion of the Land or any improvement that the Owner may direct by notice in writing to the Licensee;
- (h) to permit the Owner, or his authorized representative to enter upon the Land at any time to examine its condition;
- (i) to use and occupy the Land in accordance with the provisions of this license including those set forth in any Special Proviso Schedule;
- (j) on the expiration or at the earlier cancellation of this license
 - (i) to quit peaceably and deliver possession of the Land to the Owner,
 - (ii) to remove all buildings, machinery, plant equipment and apparatus and all other improvements to or things on the Land, from the Land,
 - (iii) to restore the surface of the Land to its original condition, and to the extent necessary, this covenant shall survive the expiration or cancellation of this license;
- (k) to effect and keep in force during the term, insurance protecting the Owner and the Licensee (without any rights of cross-claim or subrogation against the Owner) against claims for personal injury, death, property damage or third party

Licence of Occupation

File No. 7406092

or public liability claims arising from any accident or occurrence on the Land to an amount not less than \$1,000,000.00 PROVIDED, however, that the Owner may, in his sole discretion, waive the requirements of this subsection on the delivery to the Owner of evidence that the Licensee is self-insured;

- (l) withstanding subsection (k) of section 4.01, the Owner may from time to time notify the Licensee that the amount of insurance posted by the Licensee pursuant to that subsection be changed and the Licensee shall, within 60 days of receiving such notice, cause the amount of insurance posted, pursuant to subsection (k) of section 4.01 to be changed to the amount specified in the notice and deliver to the Owner written confirmation of the change except that when the Licensee is self-insuring this section shall not apply;
- (m) not to interfere with the activities of any other person to enter on and use the Land under a prior or subsequent license granted by the Owner.

(5.01) The Licensee shall not assign this license or sublicense any part of the Land without the prior written consent of the Owner.

(6.01) In the event that

- (a) the Owner requires the Land for his own use or in his sole discretion, considers that it is in the public interest to cancel the rights herein granted, in whole or in part;
- (b) the Licensee ceases to use the Land for the purposes permitted herein;
- (c) the Owner, in his sole discretion, considers that it is no longer necessary for the Licensee to use the Land for the purposes permitted herein;

the Owner may on 90 days written notice to the Licensee, cancel this license and the rights herein granted, in whole or in part.

(6.02) In the event that the Licensee fails to observe or perform any of the covenants, agreements, provisions or conditions contained herein, and such failure continues for a period of 60 days next after the giving of written notice by the Owner to the Licensee of the nature of the failure, the Owner may cancel this license in accordance with the Land Act and, notwithstanding subsection (j) of section 4.01, any building, machinery, plant equipment, and apparatus and all other improvements to the Land shall become, at the discretion of the Owner, the property of the Owner.

(6.03) In the event that

- (a) the license hereby granted should be taken in execution or attachment by any person or the Licensee commits an act of bankruptcy, becomes insolvent or is petitioned into bankruptcy or voluntarily enters into an arrangement with his creditors;
- (b) The Owner discovers that the Licensee either in his application for this license or otherwise has, in the opinion of the Owner, misrepresented or withheld any fact material to the application;

the Owner may on 90 days written notice to the Licensee, cancel this license and the rights herein granted.

(6.04) Thirty days after the expiration or cancellation of this license, any improvement or fixtures that remain unremoved from the Land shall be absolutely forfeited to and become the property of the Owner and the Owner may remove them from the Land and the Licensee shall, on demand, compensate the Owner for all costs incurred by the Owner respecting A0429737_40-000040 il.

License of Occupation

(6.05) The Licensee shall not be entitled to any compensation, whether for damages or otherwise, in respect of a cancellation of this license by the Owner under this Article.

- [REDACTED]
- (7.01) The security in the sum of \$5000.00 and all rights, privileges, benefits and interests accruing thereto delivered by the Licensee to the Owner (herein called the "Security") to guarantee the performance of the Licensee's obligations under this license shall be maintained in effect until such time as the Owner certifies in writing that such obligations have been fully performed; provided, however, that the Owner may, in his sole discretion, waive the requirements of this subsection.
- (7.02) In the event the Licensee should default in the performance of any of his obligations hereunder, it shall be lawful for the Owner, in his sole discretion, to sell, call in and convert the Security, or any part of it, and such Security shall be deemed to have been absolutely forfeited to the Owner.
- (7.03) The rights of the Owner under this Article shall be deemed to continue in full force and effect notwithstanding the expiration or earlier cancellation of this license.
- (7.04) Notwithstanding any amount of Security stated to be required under section 7.01 the Owner may, from time to time by notice to the Licensee, demand the amount to be changed to that specified in a notice and the Licensee shall, within 60 days of such notice, change the Security to that specified and provide the Owner with evidence of the change, except that when no Security is required under section 7.01 this section shall not apply.

- [REDACTED]
- (8.01) Where service of a notice or a document is required under this license, the notice or document shall be in writing and shall be deemed to have been served if delivered to, or if sent by prepaid registered mail addressed to, the Owner and the Licensee at the addresses specified for each on the first page of this license, and where service is by registered mail the notice or document shall be conclusively deemed to have been served on the eighth day after its deposit in a Canada Post office at any place in Canada.
- (8.02) Either party may, by notice in writing to the other, specify another address for service of notices under this license and where another address is specified under this section, notices shall be mailed to that address in accordance with this Article.
- (8.03) Notwithstanding section 8.01, any written notice to be served or given by the Owner to the Licensee under this license shall be effectively given or served by posting the same in a conspicuous place on the Land.

- [REDACTED]
- (9.01) No term, condition, covenant or other provision herein shall be considered to have been waived by the Owner unless such waiver is expressed in writing by the Owner. Any such waiver of any term, condition, covenant or other provision herein shall not be construed as or constitute a waiver of any further or other breach of the same or any other term, condition, covenant, or other provision and the consent or approval of the Owner to any act by the Licensee requiring the consent or approval of the Owner shall not be considered to waive or render unnecessary such consents or approvals to any subsequent similar act by the Licensee.
- (9.02) No remedy conferred upon or reserved to the Owner is exclusive of any other remedy herein or provided by A0429737_41-000041 remedy shall be cumulative and shall

License Occupation

Loi sur l'accès à l'information File No. 7406082

be in addition to any other remedy herein or hereafter existing at law, in equity, or by statute.

(9.03) This license is subject to:

- (a) : subsisting grants to or rights of any person made or acquired under the *Coal Act, Forest Act, Mineral Tenure Act, Petroleum and Natural Gas Act, Range Act, Water Act or Wildlife Act* or any extension or renewal of the same, whether or not the Licensee has actual notice of them;
- (b) the exceptions and reservations of rights, interests, privileges and titles referred to in section 47 of the *Land Act*; AND
- (c) any prior disposition made pursuant to the *Land Act*.

(9.04) The Licensee acknowledges and agrees with the Owner that

- (a) any interference with the rights of the Licensee under this license by virtue of the exercise or operation of the rights, privileges or interests described in section 9.03 shall not constitute a breach of the Owner's obligations hereunder and the Licensee releases and discharges the Owner from and against any claim for loss or damage arising directly or indirectly out of any such interference;
- (b) all costs and expenses, direct or indirect, that arise out of any interference by the Licensee with the rights, privileges and interests described in section 9.03 shall be borne solely by the Licensee;
- (c) he shall not commence or maintain proceedings under section 80 of the *Land Act* in respect of any interference with his rights hereunder arising directly or indirectly out of the exercise or operation of the rights, privileges or interests described in section 9.03; AND

(d) all schedules attached to this license form an integral part of this license.

(9.05) This license shall not entitle the Licensee to exclusive possession of the Land, and the Owner may grant licenses to others to use the Land for any purpose other than that permitted herein, so long as the grant does not materially affect the exercise of the Licensee's rights hereunder. The question of whether a grant materially affects the exercise of the Licensee's rights hereunder shall be determined by the Owner in his sole discretion.

(9.06) The terms and provisions of this license shall extend to, be binding upon and enure to the benefit of the parties hereto and their successors and permitted assigns.

(9.07) Time is of the essence in this agreement.



(10.01) In this license, unless the context otherwise requires, the singular includes the plural and the masculine includes the feminine gender and a corporation.

(10.02) The captions and headings contained in this license are for convenience only and are not to be construed as defining or in any way limiting the scope or intent of the provisions herein.

(10.03) Where in this license there is a reference to an enactment of the Province of British Columbia or of Canada, that reference shall include a reference to any subsequent enactment of like effect, and unless the context otherwise requires, all statutes referred to herein are enactments of the Province of British Columbia.

(10.04) If any section of this license or any part of a section is found to be illegal or unenforceable, that part or section, as the case may be, shall be considered

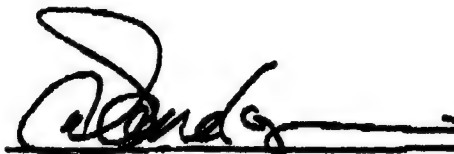
License Occupation

File No. 7408092

separate and severable and the remaining parts or section, as the case may be, shall not be affected thereby and shall be enforceable to the fullest extent permitted by law.

IN WITNESS WHEREOF, the parties have executed this license as of the day and year first above written.

SIGNED on behalf of Her Majesty
the Queen in Right of the Prov-
ince of British Columbia by the
Minister of Lands and Parks or
his duly authorized signatory in
the presence of:



Authorized Signatory

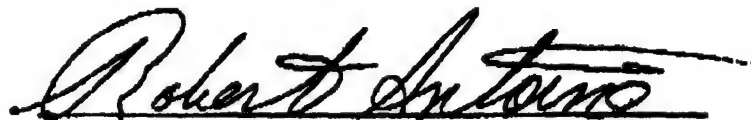
SIGNED by
Ronald Prince, trustee for the
Nak'Azdli Band of Indians in the
presence of:

Ronald Prince, trustee for the
Nak'Azdli Band of Indians

SIGNED by
Leonard Thomas, trustee for the
Nak'azdli Band of Indians in the
presence of:

Leonard Thomas, trustee for the
Nak'azdli Band of Indians

SIGNED by
Robert Antione, trustee for the
Nak'Azdli Band of Indians in the
presence of:

Robert Antione, trustee for the
Nak'Azdli Band of Indians



Province of
British Columbia

Ministry of
Lands and Parks

Legal Description Schedule

License No.

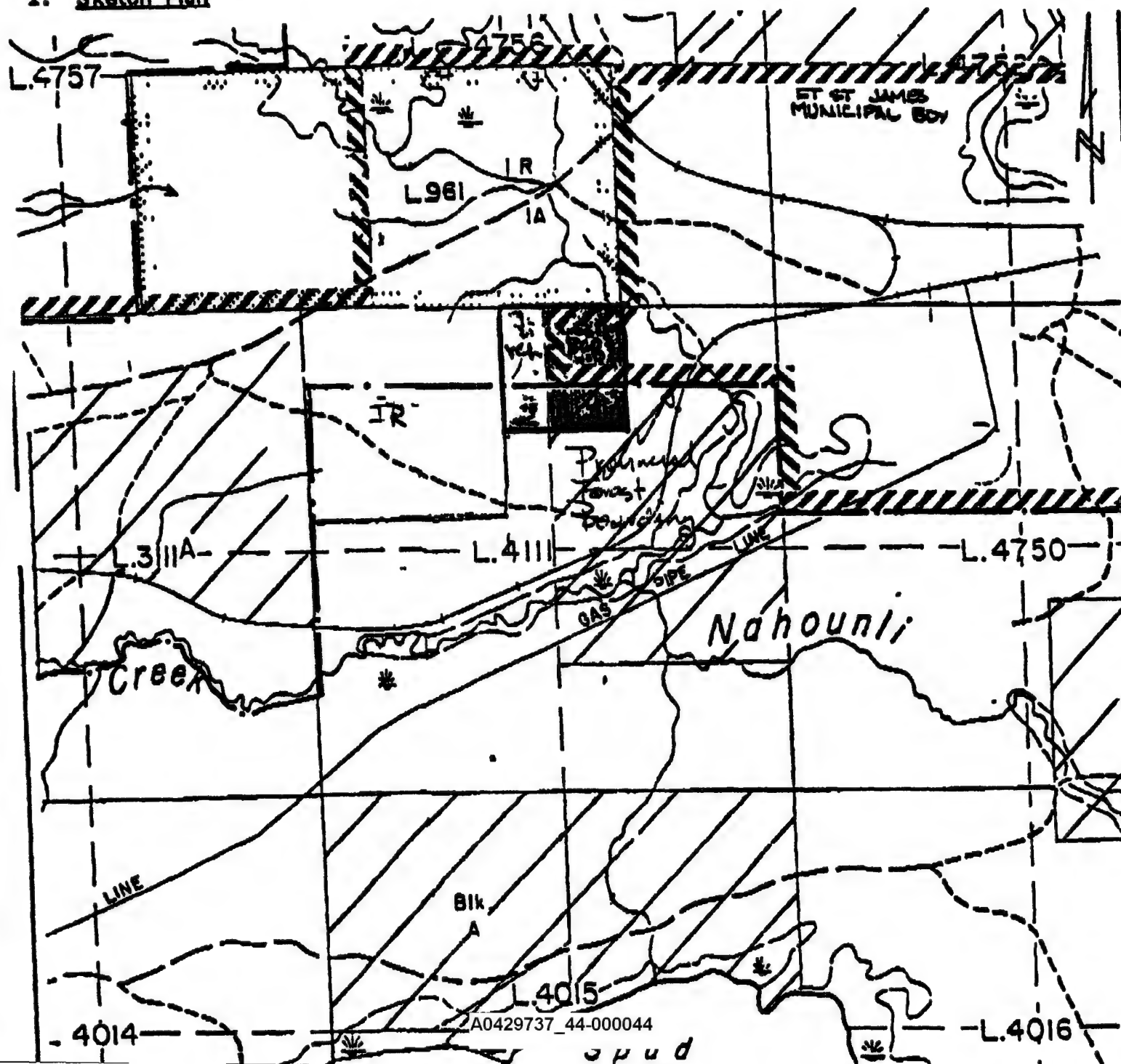
702739

File No. 7408092

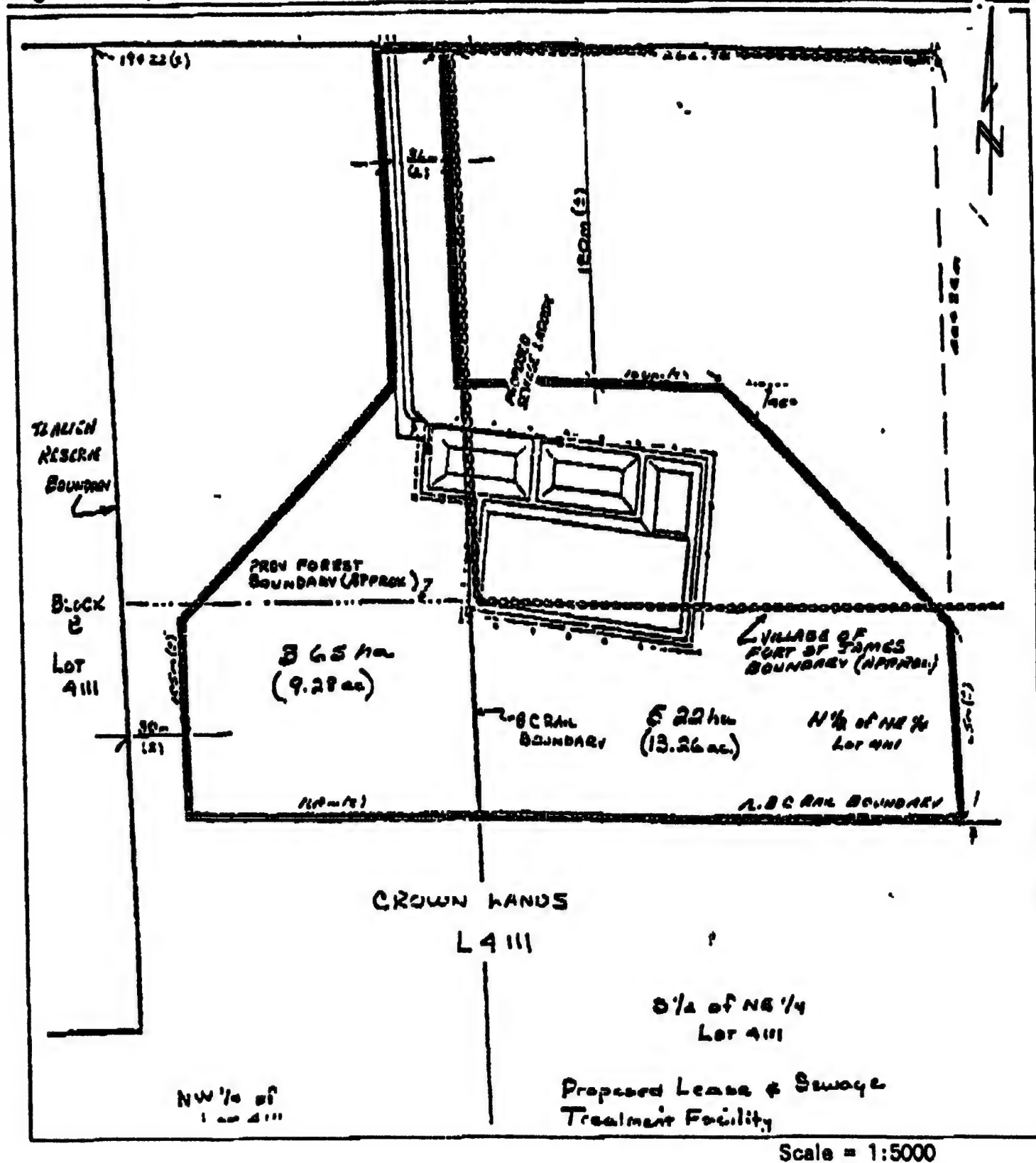
1. Legal Description

That part of District Lot 4111, Range 5 Coast District; as shown outlined in red on the sketch attached and containing 16.2 hectares, more or less.

2. Sketch Plan



Legal Description Schedule





Province of
British Columbia

Ministry of
Lands and Parks

SPECIAL PROVISIO SCHEDULE

License No.

702739

File No. 7408092

1. The Licensee covenants and agrees that a boundary plan of the Land indicating the location of all improvements will have been prepared by a British Columbia Land Surveyor retained by the Licensee, in compliance with the instructions of the Surveyor General of British Columbia, within one year from the date survey instructions are issued.

- 2.

A buffer zone must be maintained between the proposed lagoon site and the North road. No logging or land clearing will be allowed in this area;

No cleared area shall be used for spray irrigation at any time;

The lagoon must be an evaporation type and no discharge, either accidental or by design, shall be permitted from the lagoon.

Ensure adequate environmental protection for the adjacent property owned by BCR Properties Ltd.

SENT BY: B. C. LANDS

; 7- 8-81 ; 2:54PM ;

OMINECA REGION

Released under the Access

Information Act

581 5418:011

Communiqué en vertu de la

Loi sur l'Accès à

l'information



Province of
British Columbia

Ministry of
Lands and Parks

FEE SCHEDULE

License No.

702739

File No. 7406092

THE FEE FOR THE TERM SHALL BE the sum of \$1348.00, payable in advance, on the Commencement Date.



Province of
British Columbia

Ministry of
Lands and Parks

B C LANDS DIVISION
OMINECA REGION

308-1011 Fourth Avenue
Prince George
British Columbia
V2L 3H9
Telephone (604) 565 6245
L'information en vertu de la
Loi sur l'accès à l'information

Our File 7406092

08163 JUL -2 P1 57 91 06 21


Ronald Prince, Leonard Thomas
and Robert Antione
Nak'Azdli Band of Indians
P O Box 1329
Fort St James, B C
V0J 1P0

Dear Sirs

We are pleased to enclose your License No 702739, covering that part of District Lot 4111, Range 5 Coast District and containing 16 2 hectares more or less, issued in the name of **RONALD PRINCE, LEONARD THOMAS and ROBERT ANTIONE as Trustees for THE NAK'AZDLI BAND OF INDIANS** dated June 4, 1991 and issued for a term of one (1) year for construction of a sewage lagoon purposes, duly executed on behalf of the Minister of Lands and Parks

Please call if we can be of further assistance

Yours truly,


Ruth Green
Senior Examiner
Omineca Region

RG/sk
Enclosures

cc Surveyor General Branch, Victoria
Regional District of Bulkely-Nechako
B C Assessment Authority, Prince George
Ministry of Forests, Fort St James
Indian and Norther Affairs, Prince George ✓
Village of Fort St James



Province of
British Columbia
Ministry of
Lands and Parks

Legal Description Schedule

Case No

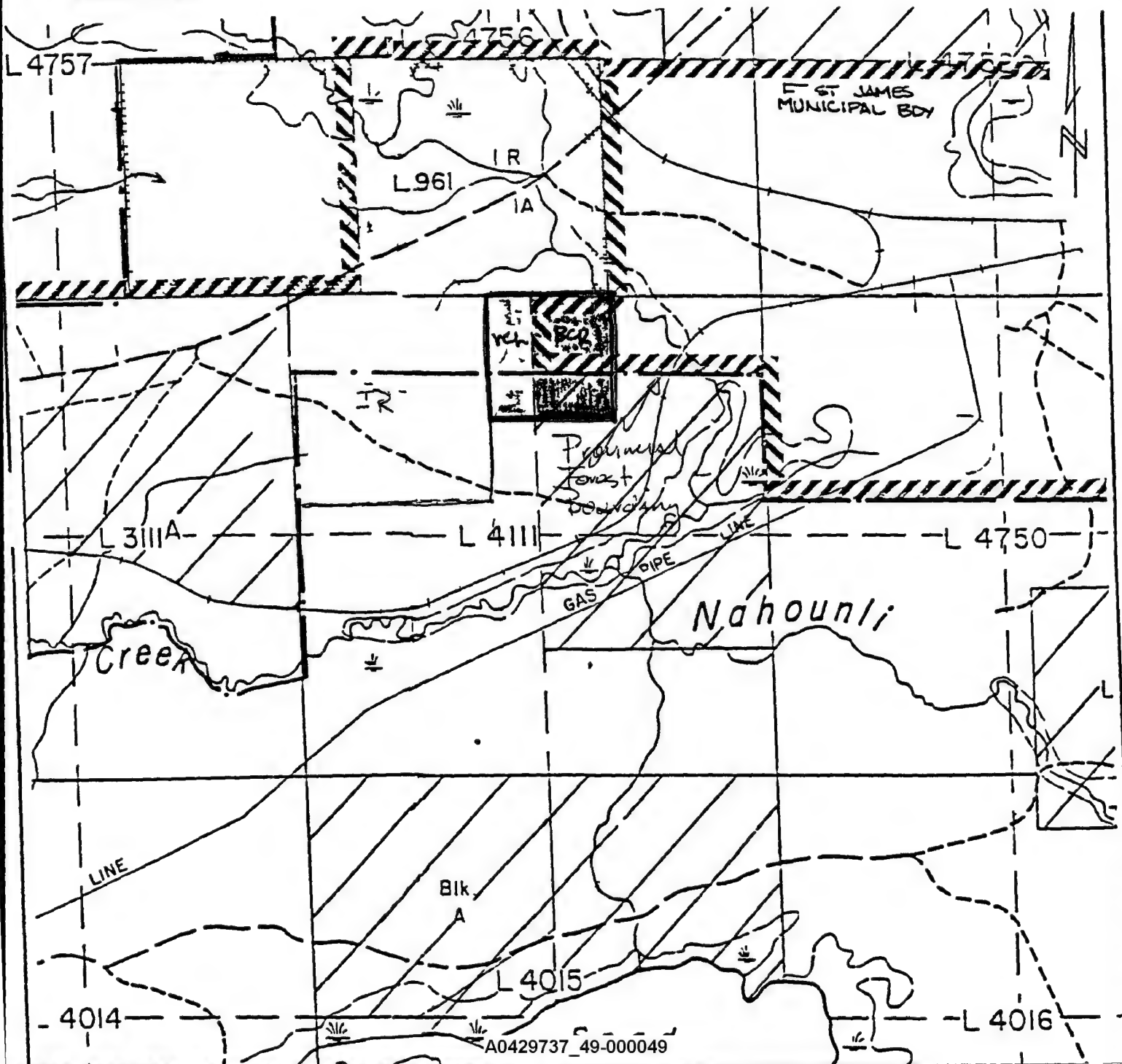
702739

File No 7406092

1 Legal Description

That part of District Lot 4111, Range 5 Coast District, as shown outlined in red on the sketch attached and containing 16 2 hectares, more or less

2 Sketch Plan



STANLEY ASSOCIATES ENGINEERING LTD

NEW ADDRESS

**212 - 556 North Nechako Rd
PRINCE GEORGE, B C
V2K 1A1**

LAND REFERRAL

JEFF GOLDIE

BILL GUERIN

BOB RADLOFF

PLEASE PROVIDE YOUR COMMENTS AND RETURN TO DON REYNIERSE AS SOON
AS POSSIBLE THANKS

INTENDED LAND USE AND PERIOD REQUIRED

Sewage Lagoon - permanent

ADDITIONAL INFORMATION RELATED TO THE FOLLOWING IS AVAILABLE ON REQUEST

see letter attached

YOUR COMMENTS MAY BE DISCLOSED TO THE PUBLIC TO JUSTIFY DECISIONS MADE
Lack of response will be considered as a positive reaction to the application

Tom Hilborn

91 04 08

AUTHORIZED SIGNATORY _____ DATE _____

RESPONSE SUMMARY

DATE

- | | |
|--|---|
| <input type="checkbox"/> APPROVAL RECOMMENDED | <input type="checkbox"/> INTERESTS UNAFFECTED BY PROPOSED USE |
| <input type="checkbox"/> APPROVAL RECOMMENDED SUBJECT TO
CONDITIONS OUTLINED ON REVERSE | <input type="checkbox"/> APPROVAL NOT RECOMMENDED DUE TO
REASONS OUTLINED ON REVERSE |
| <input type="checkbox"/> PERMIT REQUIRED | |

SIGNED BY _____ TITLE _____
FOR _____



Province of
British Columbia

Ministry of
Crown Lands

Land Referral

04259 APR 12 AM 49

APPLICANT PROPONENT NAME Stanley & Assoc Engineering Ltd		REGIONAL OFFICE ADDRESS AND PHONE No		Ministry of Crown Lands 308, 1011 Fourth Avenue Prince George, B.C. V2L 3H9	
APPLICATION PROPOSAL DATE 91 04 08	REF MAP No 93K 049/050			OUR FILE No.	7406092

Mr. D Reynierse
Indian & Northern
Affairs Canada
280 Victoria Street
Prince George, B C
V2L 4X3

You are requested to comment on the following application
Your response should be received within 30 days by the
undersigned Where the time limit for response cannot be met,
a verbal response should be made Details of the application
are provided

LOCATION OF LAND	Immediately South of District Lot 961	PARCEL SIZE	8 87 hectares \pm ha
LEGAL DESCRIPTION	Part of District Lot 4111, Range 5 Coast District		
INTENDED LAND USE AND PERIOD REQUIRED	Sewage Lagoon - permanent		
ADDITIONAL INFORMATION RELATED TO THE FOLLOWING IS AVAILABLE ON REQUEST see letter attached			

YOUR COMMENTS MAY BE DISCLOSED TO THE PUBLIC TO JUSTIFY DECISIONS MADE
Lack of response will be considered as a positive reaction to the application

Tom Hilborn

91 04 08

AUTHORIZED SIGNATORY _____ DATE _____

RESPONSE SUMMARY		DATE	
<input type="checkbox"/> APPROVAL RECOMMENDED	<input type="checkbox"/> INTERESTS UNAFFECTED BY PROPOSED USE		
<input type="checkbox"/> APPROVAL RECOMMENDED SUBJECT TO CONDITIONS OUTLINED ON REVERSE	<input type="checkbox"/> APPROVAL NOT RECOMMENDED DUE TO REASONS OUTLINED ON REVERSE		
<input type="checkbox"/> PERMIT REQUIRED			
SIGNED BY _____		TITLE _____	
		FOR _____	

Our File 7406092

91 04 09

**Re. Nak'Azdli Band, Fort St James - Application for Lease of Crown
lands for a sewage lagoon facility**

The following application was made to the Ministry of Crown Lands by Stanley and Associates Engineering Ltd for the proposed Sewage Lagoon adjacent to the Williams Prairie IRIA

We have recommended to Stanley and Associates Ltd. the following conditions to allow this proposal to commence. Our offer to Stanley and Associates Ltd regarding the leasehold is as follows.

1. A Section 10 License would be issued over a reduced area for the sewage lagoon facility. The license would be for a one year term, and would allow construction of the facility this year. The area required is to be shown on a management plan, which is to be provided by Stanley and Associates. The management plan is to show to scale, the sewage disposal facility, access, buffer areas, and area of B C Rail land required for the project. B C. Rail would also have to agree and provide a interim permit for use of their property.
2. A long term lease would be provided upon termination of the License Survey of the property by the Nak'Azdli Band in order to convey the property to the Ministry of Crown Lands. Once conveyed to our Ministry, the land would be included in the lease. The annual rental for the lease has been estimated at \$850.00 based on a percentage value of the reduced area
3. A \$5,000 00 security will be required for the life of the project.

- 4 Liability Insurance in the amount of \$1,000,000 00 is required for the life of the project.**
- 5. The following referrals are required by Ministry of Crown Lands:**
 - i) That B C Rail be contacted to allow the license over their land;**
 - ii) The Village of Fort St. James municipal office be contacted for their agreement to the license;**
 - iii) That the Fort St. James Forest Service be contacted for an application for a license to cut on the parcel - this may require a timber cruise over the parcel, both in and out of the Provincial Forest,**
 - iv) Adjacent private property owners be notified of the plans for the application area**

They hope to begin this project in the spring of this year.

Please contact Mr Tom Hilborn or Mr Richard Hough at 565-6245 if you have any questions.

Pages 55 to / à 60
are withheld pursuant to section
sont retenues en vertu de l'article

20(1)(b)

of the Access to Information Act
de la Loi sur l'accès à l'information



Public Works
Canada
Pacific Region

Travaux publics
Canada
Région du Pacifique

WILLIAMS PRARIE MEADOW

OPTIONS

Cost Differences

	<u>ON RESERVE DISPOSAL</u>	<u>OFF RESERVE DISPOSAL</u>
Land Purchase	0	\$30,000
Trucking	\$16,500 ($\frac{1}{2}$ yr)	\$82,500 ($2\frac{1}{2}$ yrs)
Forcemain extra	\$24,000	0
Road crossing	\$18,000	0
Bigger Pumps	\$ 3,000	0
Legal & Survey Costs	\$ 3,000	\$10,000
Extra Design Fees	\$ 5,000	0
	<hr/>	<hr/>
	\$69,500	\$122,500



TELEX / FAX COMMUNICATION FORM
Formulaire de communication pour FAX / TELEX

FAX no - N° de FAX 565-6941	Telephone no - N° de téléphone	Page 1 of 3
To - A ▶ Tom Hilborn B.C. Lands		
From - De ▶ Don W. Reyniers		
Branch - Direction IIA	Division Lands	Program Code - Code de programme LRT
Director General - Directeur général	Director - Directeur	Return to room no - Retourner à la pièce

Re: Williams Prairie
Meadow
Sewage Lagoon
Off Reserve
Our Referral reply
mailed 21 May 1991

▶ If further space is required please use a second page - Si cet espace est insuffisant veuillez utiliser une deuxième feuille

Signature of person authorizing message - Signature de la personne autorisant l'envoi du message 	Telephone no - N° de téléphone 5615152
	Date 23/5/91



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

May 21, 1991

Your file Votre référence

7406092
Our file No référence

E4380-614
E5673-3-614-07539

Province of British Columbia
Ministry of Crown Lands
308 - 1011 Fourth Avenue
Prince George, B. C.
V2L 3H9

ATTENTION: TOM HILBORN

Dear Tom:

**RE: LAND REFERRAL - SEWAGE LAGOON LEASE
 WILLIAMS PRAIRIE MEADOW I.R. NO. 1A
 DISTRICT LOT 961
 NAK'AZDLI BAND - FORT ST. JAMES**

Thank you for your referral for the above Application Proposal dated 91.04.08 by Stanley & Associates Engineering Ltd. We received this on April 12th, 1991.

OUR RESPONSE based on your "Response Summary" is as follows:

"Approval recommended subject to conditions outlined"

THE CONDITIONS the Federal Department of Indian Affairs and Northern Development attaches to this project are as follows:

This off-reserve proposal is just supported by our preliminary Cost Analysis verses on-reserve. Both have soil and high water table concerns. Therefore, we are prepared to support this proposal if:

- 1) The consulting engineers (Stanley) for the Band (Nak'azdli) must sign, stamp and seal the proposal (guarantee).
- 2) That all approvals required for this project are received BEFORE the 31st of July, 1991.
- 3) The Band and Consulting Engineers be cautioned that the lagoon will be within 300 meters of standard set back from residential housing area.
 (i.e. actually 150 meters)

./2

Canada

- 2 -

We would appreciate a copy of your Ministry's reply to Stanley and Nak'azdli Band.

Yours truly,



DON W. REYNIERSE
DISTRICT LANDS OFFICER
PRINCE GEORGE LANDS OFFICE
209 - 280 Victoria Street
Prince George, B. C.
V2L 4X3
(604) 561-5152

cc: Nak'azdli Band
Stanley & Associates
Jeff Goldie, DM, INAC
Bill Guerin, BSCM, INAC
Bob Radloff, DPW, INAC



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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Loi sur l'accès à
l'information*

Your file Votre référence

May 20, 1991

Our file Notre référence

4380-614
5673-3-614-07539

Chief & Council
Nak'azdli Band
Box 1329
Fort St James, B.C.
VOJ 1P0

Dear Chief Thomas

RE WILLIAMS PRAIRIE MEADOW SEWAGE LAGOON
ANNUAL RENTAL FOR LEASE

The Department is unable to provide a "Letter of Comfort" to the Ministry of Crown Lands (MOCL) as requested by Stanely and Associates, regarding the annual rental for the lease at Williams Prairie Meadow.

However, the Department discussed this requirement on May 15, 1991 with Tom Hilborn at the Ministry, and determined it was not necessary. What is required is written confirmation to the MOCL from the Band stating that you will pay the annual rental for the lease.

The Department can also confirm at this time that, subject to Parliamentary Appropriations, partial funding for this cost, may be accessed by the band under a Municipal Type Service Agreement (MTSA) in the amount of \$765 (90% of \$850) given an annual rental of \$850.

If further information is required regarding the accessing of funds under an MTSA please contact Theresa Nelson, Capital Management Officer, at the Prince George District Office or your AFA Implementation Officer

Yours truly,

BILL GUERIN
Head, Band Support & Capital Management

cc Jeff Goldie, District Manager
 Don Reynierse, District Lands Officer
 Theresa Nelson, Capital Management Officer
 Chris Robertson, AFA Implementation Officer BSCM
 B C Region

Canada



Public Works
Canada
Pacific Region

Travaux publics
Canada
Région du Pacifique

WILLIAMS PRARIE MEADOW

OPTIONS

Cost Differences:

	<u>ON RESERVE DISPOSAL</u>	<u>OFF RESERVE DISPOSAL</u> (Land Purchase)	<u>Off Reserve Disposal</u> (Interim Permit; Land Purchase)
Land Purchase	0	\$30,000	\$30,000
Trucking	\$16,500 (1 yr)	\$82,500 (2 1/2 yrs)	16,500 (1 yr.)
Forcemain extra	\$24,000	0	0
Road crossing	\$18,000	0	0
Bigger Pumps	\$ 3,000	0	0
Legal & Survey Costs	\$ 3,000	\$10,000	10,000
Extra Design Fees	\$ 5,000	0	0
	<u>\$69,500</u>	<u>\$122,500</u>	<u>\$56,500</u>

9,000 (Permit Fees)**
\$65,500

**** Permit Fees**

Bond	\$5,000
Lands	2,125 (Annual Fee)
Waste Management Fees	750
Misc.	<u>1,125</u>
	<u>\$9,000</u>

*re calculated
By Don A. K...
16 May 1991*



Public Works
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WILLIAMS PRARIE MEADOW

OPTIONS

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Public Works
Canada
Pacific Region

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Canada
Région du Pacifique

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			9,000 (Permit Fees)**
			<u>\$65,500</u>

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Public Works
Canada
Pacific Region

Travaux publics
Canada
Région du Pacifique

WILLIAMS PRARIE MEADOW

OPTIONS

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Stanley Associates Engineering Ltd
#212 - 556 N. Nechako Rd
Prince George, B.C. V2K 1A1
Phone (604) 562-8261
Fax (604) 564-9338

4380-614
5643-614

April 8, 1991
File. 90-461-01-01

04114 APR 10 AIO 50

Ministry of Crown Lands
Third Floor
1011 Fourth Avenue
Prince George, B.C.
V2L 3H9

Attention. Mr. Tom Hillborn
Land Office

Dear Sir.

Reference: Nak'azdli Indian Band
Application for Lease of Crown Lands for
Sewage Lagoons Facility
Fort St. James, B C

As discussed in recent weeks, enclosed is an application for lease of Crown Lands located immediately south of DL 961 (I R #1A, Williams Prairie Meadow) north of Fort St James, B C . The following drawings are included in support of this application.

- | | |
|--|----------------|
| - Location Plan | scale 1 20,000 |
| - Williams Prairie Meadow
Servicing Layout | scale 1:1,000 |
| - Sewage Lagoon Layout | scale 1:500 |
| - Road Profiles | scale 1:1,000 |
| - Plan showing lot lines, Village
boundary, proposed lease area
and lagoon development | scale 1:2,000 |



Printed on recycled paper

A0429737_70-000070

Supporting correspondence is attached including

- Band Council Resolution, July 1990, with signature of three trustees to hold the lease on behalf of the Band.
- Letter dated December 06, 1991 from B C Rail regarding the B C. Rail lands included in a former application
- Letter dated April 04, 1991 from Mr R Hough, Manager, Omineca Region, detailing lease requirements

The Nak'azdli Band is in the process of providing water, sanitary sewer and road services to 6 existing homes and 8 additional lots on the Williams Prairie Meadow reserve. Facultative and evaporation lagoons have been selected for sewage treatment, with the preferred location shown on the drawings and maps attached. An evaporation lagoon was selected since the small creek which flows through the reserve has very low flow for much of the year, it flows through the Village of Fort St James and it is unlikely this creek would be suitable or approved as a disposal site for treated wastewater effluent. Site soils are unsuitable for conventional ground disposal.

As all the treated effluent must be evaporated, areas east, south and west of the actual lagoons would be cleared to increase wind and sun exposure. These cleared areas could be used for spray irrigation disposal in emergencies as extended wet periods.

The area surrounding the proposed lagoons is treed and forms a buffer zone between the lagoons and residences or industrial development.

Your timely processing of this application would be appreciated so that construction may be completed as early as possible in 1991.

Yours Truly,

STANLEY ASSOCIATES ENGINEERING LTD



M. A. Pool, P. Eng.

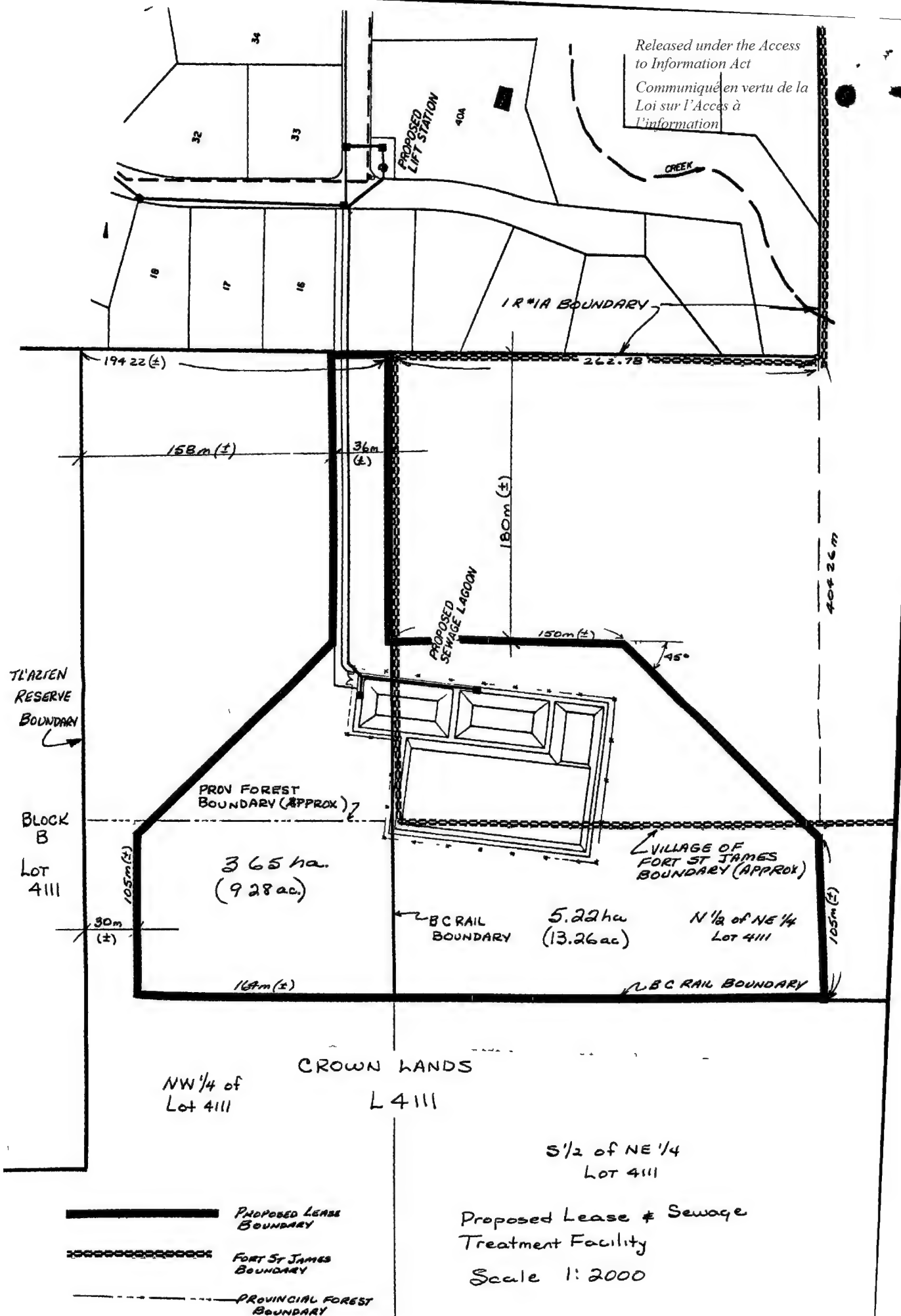
Project Engineer

NAP/ljw

cc Nak'azdli Band - Chief Leonard Thomas

C S T.C - J Spencer, P Eng

I N A C - J Colby, P. Eng





Province of
British Columbia

Ministry of
Crown Lands
B.C. LANDS
OMINECA REGION

Released under the Access
to Information Act
308-1011 Fourth Avenue
Prince George
British Columbia
V2L 3L4
L'accès à l'information
Telephone (604) 565 6245

File 7406092

0 4 0 3 4

APR -8 P12 27

91 04 04

Stanley Associates Engineering Ltd
Suite 100, 1360 Fifth Avenue
Prince George, B.C.
V2L 3L4

Attention: Ms. Anne Pool

Dear Ms. Pool:

Re: Nak'Azdli Band Sewage Lagoon Proposal

Further to our discussions regarding the above proposal, I wish to confirm that we are prepared to offer a leasehold over the property as requested by yourself on behalf of the Nak'Azdli Band. Our previous offer to convey the property to the Department of Indian & Northern Affairs is also available subject to resolution of the points outlined in our letter of 91 02.08 to Indian & Northern Affairs Canada

The structure of the leasehold would be as follows:

1. A Section 10 License would be issued over a reduced area for the sewage lagoon facility. The license would be for a one year term, and would allow construction of the facility this year. The area required is to be shown on a management plan, which is to be provided by Stanley & Associates. The management plan is to show to scale, the sewage disposal facility, access, buffer areas, and area of B.C. Rail land required for the project. B.C. Rail would also have to agree and provide a interim permit for use of their property. By copy of this letter, I will ask B.C. Rail for their comment on this change to the proposal
2. A long term lease would be provided upon termination of the License. Survey of the property by the Nak'Azdli Band would be required. The B.C. Rail property will also require survey by the Nak'Azdli Band in order to convey the property to the Ministry of Crown Lands. Once conveyed to our Ministry, the land would be included in the lease. The annual rental for the lease has been estimated at \$850 00 based on a percentage value of the reduced area
3. A \$5,000 00 security will be required for the life of the project.
4. Liability Insurance in the amount of \$1,000,000 00 is required for the life of the project

. /2

- 2 -

- 6 The value of the property and stumpage value of timber is approximately \$78,000 00. Full payment of the property value and stumpage is required prior to conveyance of the property to the Department of Indian & Northern Affairs.

I have attached a map outlining the various jurisdictional boundaries influencing the property

The acquisition process and time involved could probably be simplified by reconfiguring the property boundaries to eliminate some of the above items

I understand that you will be meeting with the Nak'Azdli Band to discuss this proposal. Please advise of the results of the meeting and of your agreement to proceed in principal



Land Administration
Omineca Region

/dp

cc: Mr D.R. Neuenfeldt, B C. Rail, P O Box 8770, Vancouver, B C ,
V6B 4X6
Mr B Fry, Ministry of Crown Lands, Land Policy Branch, Victoria,
B C , V8V 1X5

Minutes of Meeting
February 20, 1991
INAC Offices c 10 pm

02192 FEB 27 10:34

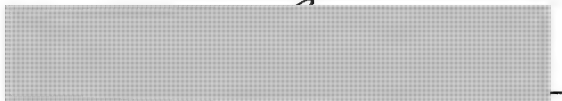
Present L Thomas - Nak'azdli Band
F Sam - Nak'azdli Band
T Nelson - INAC
E Radloff - INAC
J Goldie - INAC
✓ B Peddome - INAC
D Reynierse - INAC
E Wiens - SAEL
A Fool - SAEL

- 1 L Thomas explained meeting was called to clarify INAC's position on the project, and steps to be taken so that construction of the sewerage system could take place in 1991.
- 2 J Goldie noted two options for locating the treatment and disposal facility, one off-reserve, one on-reserve.
- 3 L Thomas explained that the Band long-term objective was to convert the off-reserve site to reserve lands, but, since this is a 2 - 5 year process, the Band short-term objective was to lease the lands until the purchase process could be completed.
- 4 E Wiens outlined the lease process as explained in the SAEL meeting with Crown Lands, including
 - approximately \$1,500/yr fee must be "guaranteed" by INAC
 - \$1 - 5,000 bond must be placed with Crown Lands (for repairs, reclamation)
 - \$1,000,000 insurance policy required

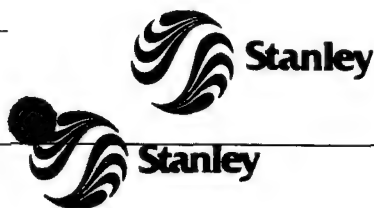
- schedule - if application and letter from INAC ensuring continued payment of lease fees received by Crown Lands on March 1st, Crown Lands expects interim tenure in April. Noted Forestry permit to cut timber could take 2 months longer
- interim tenure for construction period followed by survey and lease

E SAEL was instructed to request a letter from Crown Lands, similar to the "purchase" letter to D Feynierse but applicable to a lease, setting out the lease procedure and requirements

E Lease to be in Nal'azdli Band name J Goldie will pursue a form of "guarantee" of lease payments



M A Fool



F A X M E S S A G E

DATE February 21 1991

TO RD Hough - Land Administration - Omeneca

FAX NO. 565-6941

FROM



Stanley Associates Engineering Ltd.
Suite 100, 1360 Fifth Avenue
Prince George, B.C. V2L 3L4
Phone (604) 562-8261

THIS MESSAGE INCLUDES 03 PAGES

OUR PROJECT NO. 90-493-01-01

Richard

*Attached are minutes of our meeting, Feb 14 for
your information*

*At a meeting with INAC and the Band yesterday,
SAEL were instructed to request a letter from Crown
Lands setting out the necessary steps, items to be
resolved and a tentative schedule for leasing of the
site, assuming a 30 year time period. A letter similar
to your letter of Feb 08 to Mr Reynierse, but on the basis
of a lease instead of purchase is requested*

If you have any questions, please call me

Anne Pool





File 7406092

91 02 08

Mr D Reynierse
Indian & Northern Affairs Canada
280 Victoria Street
Prince George, B C
V2L 4X3

Dear Mr Reynierse

Re. Nak'Azdli Band Sewage Lagoon Proposal, Fort St. James

Further to our meeting of January 29, 1991, I wish to confirm that we would be pleased to assist with the above proposal. As discussed, the following items will require resolution in order for the proposal to proceed

- 1 The area actually required for the proposed facility will be conveyed to the department of Indian & Northern Affairs. An engineering plan is required indicating the actual area required for the facility
- 2 The British Columbia Railway Company property involved in the proposal will have to be subdivided and surveyed before it can be conveyed to the Ministry of Crown Lands. The cost of the survey would be the responsibility of the Nak'Azdli Band or the Department of Indian & Northern Affairs
- 3 The Crown property will also have to be subdivided and surveyed. The cost of completing this work would also be the responsibility of the Nak'Azdli Band or the Department of Indian & Northern Affairs
- 4 Zoning and subdivision of these properties will involve obtaining authorization from the Village of Fort St. James and the Regional District of Bulkley-Nechako. The question of satisfactory highway access to the properties will have to be addressed during the subdivision process
- 5 The southern portion of the Crown parcel is in the Provincial Forest Agreement of the proposed use from the Ministry of Forests and a Provincial Government Order-in-Council to delete the area from the Provincial Forest is required

- 2 -

- 6 The value of the property and stumpage value of timber is approximately \$78,000 00 Full payment of the property value and stumpage is required prior to conveyance of the property to the Department of Indian & Northern Affairs

I have attached a map outlining the various jurisdictional boundaries influencing the property

The acquisition process and time involved could probably be simplified by reconfiguring the property boundaries to eliminate some of the above items

I understand that you will be meeting with the Nak'Azdli Band to discuss this proposal Please advise of the results of the meeting and of your agreement to proceed in principal

Yours truly, 


Omineca Region

/dp

cc Mr D R Neuenfeldt, B C Rail, P O Box 8770, Vancouver, B C ,
V6B 4X6
Mr B Fry, Ministry of Crown Lands, Land Policy Branch, Victoria,
B C , V8V 1X5



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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s.20(1)(b)

December 19, 1990

Your file Votre référence

Our file Notre référence

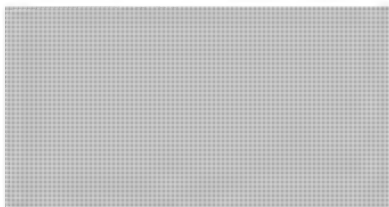
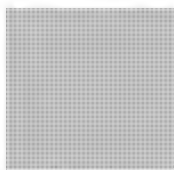
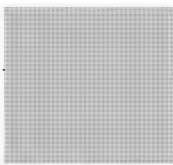
4380-1-614

Marcel Fillion
Manager Capital
B C Region

Att David Hooper

RE CAPITAL PROJECTS

The Prince George District has reassessed its urgent Health and Safety projects which have designs in place and could proceed now or by the spring of 1991. At this time we request consideration be given to the six projects identified per your list of 1991/92 water and sewer projects (attached) and bring to your attention a further seven projects. These projects are as identified below

<u>PROJECT</u>	<u>TYPE</u>	<u>TOTAL COST</u>	<u>91/92</u>	<u>UNFUNDED</u>
	N			
	N			
	R			
	E			
	E			
	R	180.0		180 0

Necoslie DWS

TYPE R - Replace
 E - Expansion
 N - New

If further information is required please contact myself at
561-5199

BILL GUERIN
A/Head, Band Support & Capital Management
Prince George Field Office
209 280 Victoria Street
Prince George, B C
V2L 4X3

Att
Canada

A0429737_81-000081

November 30th, 1990.

E4380-614

Director,
Band Support & Capital Management,
British Columbia Region,
Vancouver, B.C.

Attention: Robert Hall,
Regional Facilities Maintenance Officer.

Re: Williams Prairie Meadow - Interim Pumping of
Community Septic System - \$19,500.00.

Attached is a copy of the request from the Nak'Azdli Band regarding
the above.

As discussed, Region will consider providing O & M funds towards this
expense should monies become available in this fiscal year or in the
upcoming 1991/92 fiscal year, subject to budget availability.

In the meantime, we are advising the Band to tender out the work to
obtain the lowest price, and charge this expense to the capital
project.

Thank you for your assistance in this matter.

JEFF GOLDIE,
DISTRICT MANAGER,
PRINCE GEORGE FIELD OFFICE,
PRINCE GEORGE, B.C.

Att.

cc. Bill Guerin, A/Head, B.S.C.M.

Warren Reade,
A/Community Facilities Officer.



NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996 7171

November 13, 1990

Indian & Northern Affairs Canada
209 - 280 Victoria Street
Prince George, B C
V2L 4X3

Attention Mr Bill Guerin
Head of Band Support Capital Management

We hereby request approval of the proposal to arrange a Municipal Agreement of the Pump Out of six septic tanks of the Williams Prairie Meadow necessary due to the cancellation of the sewage portion of the Williams Priarie Meadow Works

This Municipal Agreement will cost an estimate of \$650 00 per week commencing the end of November 1990 and will run through until July 1991 assuming the sewage project will proceed in 1991-1992 Otherwise, we will be seeking an annual agreement should the sewage works be delayed

Our Band is seeking a commitment of at least \$650 00 per week at thirty (30) weeks which is \$19,500 00 to July 01, 1991

The Band is reviewing the option of tendering the works

Sincerely,

NAK'AZDLI BAND COUNCIL


PETER PRINCE
Senior Manager

PP lam

c c John Spencer, Capital Engineer, Carrier Sekani Tribal
Council
T K Thien, Indian & Northern Affairs, Regional Office

*Band will go out
for tender on the
work to get the lowest
prices*



Public Works
Canada

Pacific Region

Travaux publics
Canada
Region du Pacifique

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to Information Act
*Communiqué en vertu de la
Loi sur l'accès à
l'information*

May 1, 1990

87803

11-2 100 43

E4380-614

Ms. Gina Beddone
A/District Superintendent
Lands, Revenue and Trust
Prince George Field Office

Dear Gina

RE: WILLIAM PRAIRIE MEADOW
PROPOSED SEWAGE LAGOON

I am writing in connection, on the subject of construction of municipal facility off reserve on Crown land

The proposed facility in question is located at Williams Prairie Meadow. The Band consultant has recommended facultative and evaporation lagoons as the most appropriate wastewater treatment-disposal system for the community. While the lagoon facility could be located within the reserve land, this would severely limit any future development. For this reason the consultant has recommended that the lagoon facility be constructed off reserve on Crown land abutting the south boundary of the reserve.

In response to my enquiry as to the correct procedure to take, you advised the following:

1. Obtain a license of occupation for 10 years from the Provisional Government. The license can be in the name of the Band or the Department. Once the license is obtained and a legal surveyed plan is prepared, the Department (LRT) can proceed to convert the parcel of land into reserve land, (which is a time consuming process and can take up to 3 years). The construction of municipal facility off-reserve on crown land with occupation permit will not jeopardize INAC Capital funding.
2. Obtain a statutory right of way for the proposed facility.

Acting on your advice, I have told the Band consultant to proceed with the application for a license of occupation for 10 years for the proposed sewage facility.

T.K. Thien

T.K. Thien,
Area Project Engineer
DIAND Technical Services, P/C
B.C. Region

cc. Theresa Nelson, Prince George District

Canada

Don



NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996-7171

October 01, 1990

95445 OCT -3 NO 37

Department of Indian Affairs
209 - 280 Victoria Street
Prince George, B C
V2L 4X3

Attention Mr Jeff Goldie, District Manager

Dear Mr Goldie

Re Land/Sewage Disposal

I enclose an offer made by British Columbia Railways (BCR) for the purchase of the property required for sewage disposal by the Band

The price that they are requesting is out of our reach, unless of course your department comes up with the funds

There are several points we must consider in opening up dialogue with B C R officials

- 1 It seems that B C R are taking a firm position not to lease the land We don't agree that they have good reason not to enter into a lease, if necessary
- 2 Since B C R is an Incorporated Company of the crown (British Columbia Government) we see it in their power to re-assign the lands back to the crown for disposition This may alleviate the need to purchase the land
- 3 How does the new Lands Policy reflect on purchased lands to be allotted as reserve lands
- 4 1970 B C R Land Exchange We are requesting a complete review of this file It is our Council's opinion that the exchange was done improperly, without the consultation of our membership at large It seems they basically used section 35 of the Indian Act with no regard to the process outlined in section 37. The land involved is not the point but if it was improperly processed then we can use it as a negotiating lever

- 2 -

- 5 Sewage Alternatives We will further instruct our engineer to look at other alternatives for the sewage disposal location, but it is our conclusion that the proposed area is the most suitable and ideal for the long term
- 6 The B C R Board of Directors will be meeting here on October 16, 1990 Given the opportunity, I will present to them our needs

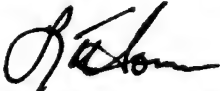
Finally, I conclude by my writing this official request from our Band Council that the Department of Indian Affairs are instructed to proceed with a new lands proposal on our behalf to the Minister

We feel that the health of our community is at risk if you do not act on this immediately You are further advised to contact B C R authorities of your intentions of accessing the property on our behalf I'm sure we can come up with a suitable arrangement within the next year

Please send copies of all correspondence I await your reply

Sincerely,

NAK'AZDLI BAND COUNCIL



CHIEF LEONARD THOMAS

p c Eric Weins, Stanley & Associates
John Spencer, CSTC

Encl

Communiqué en vertu de la
Loi sur l'Accès à
l'information**BCR**
PROPERTIES

- 70,000
sell timber - Tender,
all cleared

September 26, 1990

VIA FAX 996-8010

Nak'Azdli Indian Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0Attention: Chief Leonard Thomas

Dear Sirs:

Re: Land for Sewage Disposal
District Lot 4111, Coast District - Fort St. James

Further to your inquiry in respect to our subject property in Fort St. James, we are pleased to advise that BCR Properties Ltd. would be prepared to seek Board of Directors' approval (on or before October 31, 1990) to sell the entire District Lot, comprised of 80+ acres, to the Nak'Azdli Band on the following terms and conditions.

1. Sale price to be \$170,000 comprised of: a value 100,000 + in timber, 70,000 in real estate
- \$17,000 (10%) non-refundable deposit;
- \$153,000 balance payable upon transfer of title.
2. The purchase price includes all timber rights on the subject property;
3. Purchaser responsible for any and all costs incurred in respect to subdivision and conveyance.

This Offer is open for acceptance until October 9, 1990, by returning one signed copy of this letter together with the deposit cheque in the amount

. . . 2

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to Information Act

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Loi sur l'accès à
l'information

s.19(1)

Nak'Azdli Indian Band
September 26, 1990
Page 2

of \$17,000. The deposit cheque will only be refundable in the event BCR Properties Ltd.s' Executive does not approve the sale. Due to the nature of the proposed use, this property will not be leased. Please do not hesitate to call me at 984-5308 should you have any further questions.

Yours truly,

BCR PROPERTIES LTD.

Bradley R. Cooper
Manager
Properties Development
and Municipal Relations

BRC/dmc

The terms and conditions as set out herein are hereby acknowledged and accepted this _____ day of _____, 1990.

Witness

Authorized Signatory

WILLIAMS PRAIRIE MEADOW I R NO 1A

East 1/2 of District Lot 961 CLSR FB 31141

Sept 4, 1914

Land above

Crown granted to Alexander C Murray under No 6990/61

December 26, 1942

Purchased from Hudson Bay Co *by Crown Canada*

January 24, 1966

Memo from Forest Service regarding trespass *to Pr George DIA*
of debris from railway line construction

March 28, 1966

Letter to Ginter *from Pr George DIA on Trespass of debris*

July 29, 1966

Railway trespassed *Confirmed, T H now I do not know railway line*
on DIA Thought just debris

August 3, 1966

Confirmed

~~Did work~~ trespass cleaning, burning, leveling, the spoil
banks made by Ben Ginter Const Co Ltd for the storage
area *on behalf of PGE Railway Co*

February 4, 1967 BCR of Band to accept \$100 per acre *from PGE Rail*

April 13, 1967

\$2044 00 original amount sent for land sale and cleaning
a storage area (creating), \$1750 00 for this to be done
by the Band Cleanup, culvert, storage yard

January 8, 1968

Original proposal was to pay \$294 for land (\$100/acre) as
agreed to in February 4, 1967 B C R ~~but~~ *BUT* Now Land
Exchange to be done per new policy of Band

WILLIAMS PRAIRIE MEADOW I R NO 1A CONT

January 31, 1968

B C R accepting "compensation in acreage equal in value to land to be taken," signed by Nicholas Prince, Chief, Betsy Leon, Robert Prince, Lazare Pigeon — 3-1

~~April 1, 1968~~

~~Railway entered the 294 ac parcel constructed line
Headquarters now wants exchange verses sale of I.R.~~

December 1969

\$1750 00 credited to Band Revenues (Trust Accounts)

\$294 00 returned to PGE Rail (due now being land exchange)

March 17, 1970

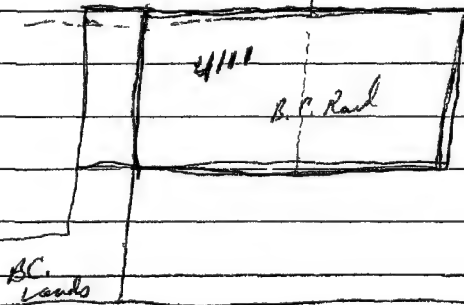
PC 1970-472

- accepted Lot 1 as shown on CLSR 55752
- set apart Lot 1 above and Williams Prairie Meadow,
- transferred land shown on CLSR 55801 to PGE Railway Co.

June 15, 1970

Indian Land Grant to Pacific Great Eastern Railway Company

W.P.M. IRN. 1A



- East to do by INAC ^{subdivided}

- B.C. Rail to negotiate
with B.C. Lands

- Buffer on North & East.
desired

{ { { }

98131 NOV 33 AM 18

November 29, 1990

Chief Leonard Thomas
Nak'Azdli Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

98131 NOV 33 AM 18

Dear Chief Thomas:

Re: Land for Sewage Disposal Facility
Part District Lot 4111, Range 5, Coast District
Fort St. James, B.C.

Further to our meeting in Prince George on Wednesday, November 14, 1990 and subsequent telephone conversation on November 28th, I am pleased to confirm the following:

1. Our Board of Directors considered this matter on Tuesday, November 27, 1990 and approved transfer of a portion of our titled land to the Province of British Columbia to enable the Ministry of Crown Lands to accommodate development of a sewage disposal system by your Band to serve your adjoining Williams Prairie Meadow I.R. No. 1A. Our Board approval is subject to our company being absolved from any and all costs of survey and/or transfer and subject further to environmental protection for our remaining adjoining lands.
2. The Ministry of Crown Lands has agreed in principle to accept transfer of the 26.25+ acre portion of the North 1/2 of the Northeast 1/4 of District Lot 4111, Range 5, Coast District as shown on the attached plan, however, should a legal survey be required to effect the transfer, the cost of that survey would have to be borne by your Band or Indian Affairs and Northern Development, Canada.
3. We have requested the Ministry of Crown Lands to ask the Surveyor General of British Columbia to review with the Prince Rupert Land Title Office, the possibility of a transfer being permitted from our company to the Province without legal survey. We hope to receive a decision in this regard by early January, 1991.
4. If transfer can be effected without legal survey, we expect to be able to complete this in January 1991, however, if a survey is necessary, completion of the transfer to the Province will be delayed until the survey is done. We'll advise you further in this regard as soon as we receive the Ministry's response (per item 3, above).

s.19(1)


Chief Leonard Thomas
November 29, 1990
Page 2

We are very optimistic that the cooperative efforts of the Ministry of Crown Lands and our company will enable your Band's sewage disposal system development to proceed following Spring breakup in 1991. The Ministry, not BCR Properties Ltd., will be the party your Band will need to work with to secure the necessary license to enable your development to proceed and the Ministry may be limited in their ability to address the license issue until completion of transfer of title to the 26+ acre area from BCR Properties Ltd.. We suggest that you communicate directly with the Ministry's Regional Office in Prince George with any questions you may have.

We will write to you as soon as we have further advice pertaining to our transfer of title to the Province.

Yours truly,

BCR PROPERTIES LTD.


D.R. Neuenfeldt
Manager
Property Administration
and Native Affairs

DRN/dmc

cc: Ministry of Crown Lands
Victoria, B.C.

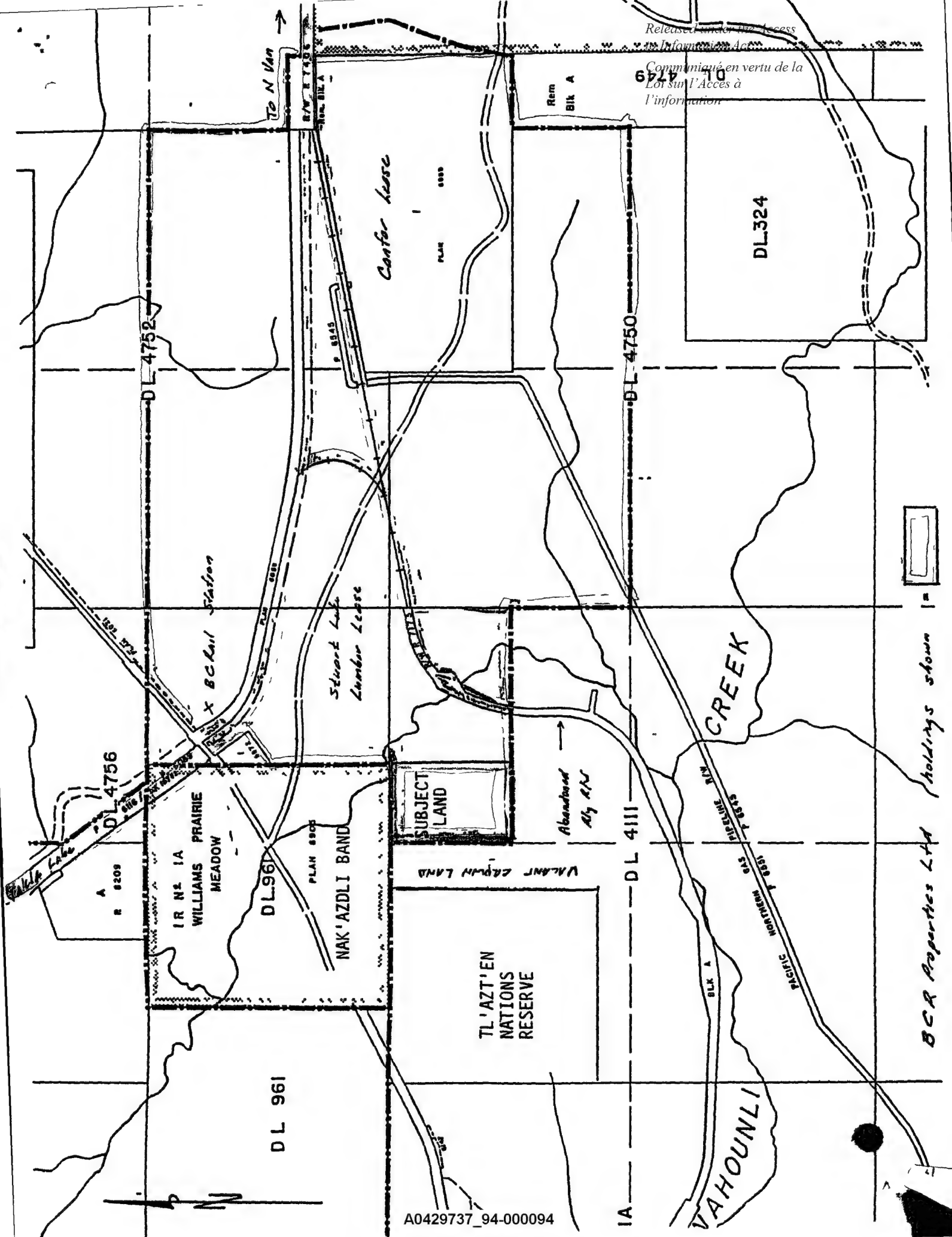
Attn: Wes L. Umphrey, Director
Real Estate Services

✓ Indian Affairs & Northern
Development, Canada
Prince George, B.C.

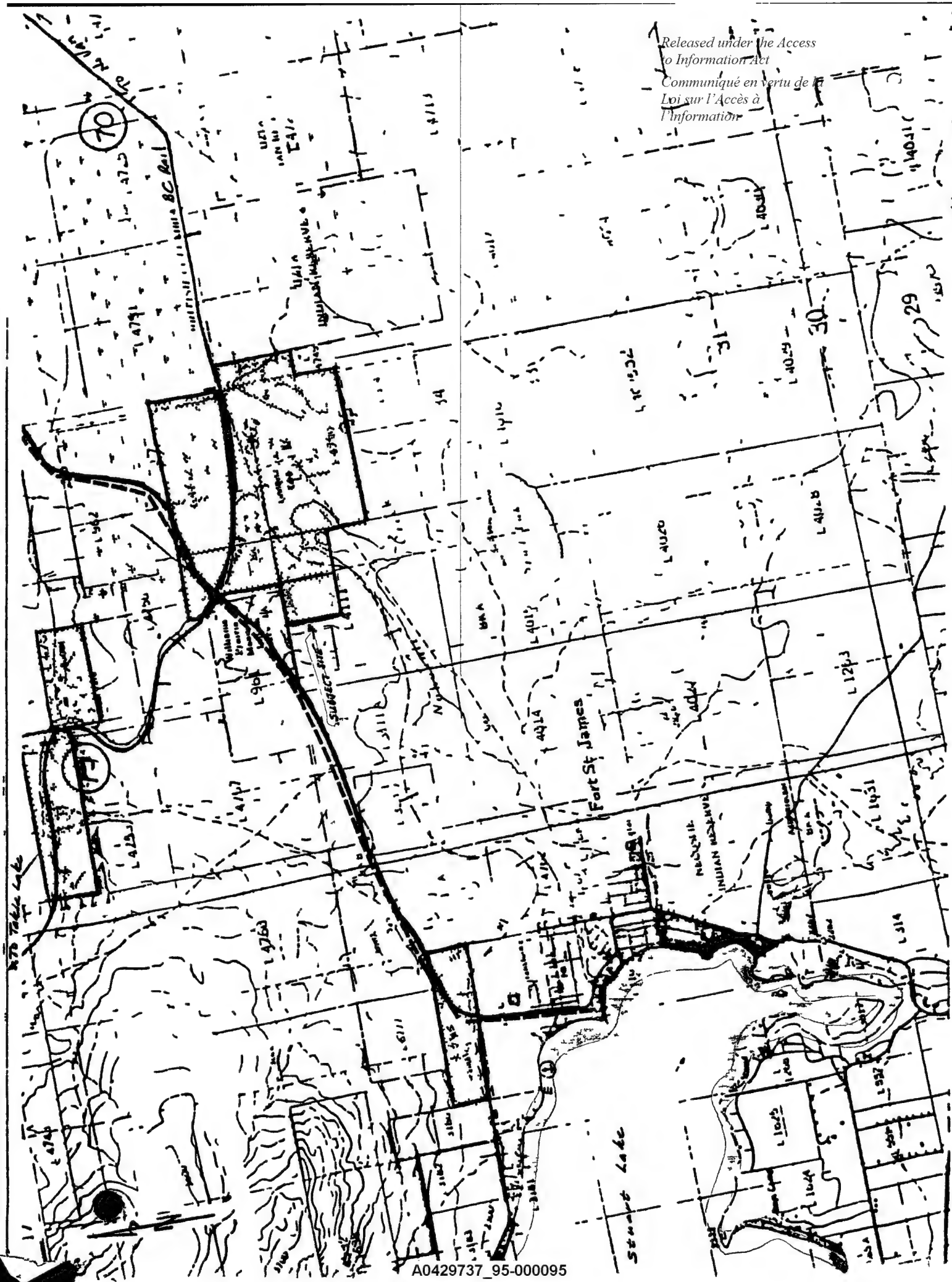
Attn: Don W. Reynierse

Ministry of Native Affairs
Victoria, B.C.

Attn: Eric Denhoff, Deputy Minister



KEY MAP



4380-614

Memo To File

a meeting was held @ CSTC on Wed. Nov. 14,
between:

Chief Leonard Thomas
Eric Wins, Eng
Ray Newnfield, BCRail
Brad Cooper, BCRail
Walt Young, BCRail
Gina Beldone, DIA
Don Reymise, DIA

- the result of the meeting was that BCRail would be prepared to provide sufficient land to accommodate lagoon + buffer.
- BCRail proposed to speak with Prov. Crown lands (Victoria) to determine if Prov. incl. concurs.
- BCRail would transfer title to Prov of BC & then the Band would deal with Prov. incl. in relation to lic. of Occup or purchase. ~~along with~~
- BCRail suggested they would accommodate Band at no monetary burden to Band other than cost of subdividing lot if req'd.
~~if req'd.~~ RB



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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information

NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996-7171

October 01, 1990

95445 OCT -3 NO 37

Department of Indian Affairs
209 - 280 Victoria Street
Prince George, B C
V2L 4X3

Attention Mr Jeff Goldie, District Manager

Dear Mr Goldie

Re Land/Sewage Disposal

I enclose an offer made by British Columbia Railways (BCR) for the purchase of the property required for sewage disposal by the Band

The price that they are requesting is out of our reach, unless of course your department comes up with the funds

There are several points we must consider in opening up dialogue with B C R officials

- 1 It seems that B C R are taking a firm position not to lease the land We don't agree that they have good reason not to enter into a lease, if necessary
- 2 Since B C R is an Incorporated Company of the crown (British Columbia Government) we see it in their power to re-assign the lands back to the crown for disposition This may alleviate the need to purchase the land
- 3 How does the new Lands Policy reflect on purchased lands to be allotted as reserve lands
- 4 1970 B C R Land Exchange We are requesting a complete review of this file It is our Council's opinion that the exchange was done improperly, without the consultation of our membership at large It seems they basically used section 35 of the Indian Act with no regard to the process outlined in section 37 The land involved is not the point but if it was improperly processed then we can use it as a negotiating lever

- 2 -

- 5 Sewage Alternatives We will further instruct our engineer to look at other alternatives for the sewage disposal location, but it is our conclusion that the proposed area is the most suitable and ideal for the long term
- 6 The B C R Board of Directors will be meeting here on October 16, 1990 Given the opportunity, I will present to them our needs

Finally, I conclude by my writing this official request from our Band Council that the Department of Indian Affairs are instructed to proceed with a new lands proposal on our behalf to the Minister

We feel that the health of our community is at risk if you do not act on this immediately You are further advised to contact B C R authorities of your intentions of accessing the property on our behalf I'm sure we can come up with a suitable arrangement within the next year

Please send copies of all correspondence I await your reply

Sincerely,

NAK'AZDLI BAND COUNCIL



CHIEF LEONARD THOMAS

p c Eric Weins, Stanley & Associates
John Spencer, CSTC

Encl



September 26, 1990

VIA FAX 996-8010

Nak'Azdli Indian Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Chief Leonard Thomas

Dear Sirs:

Re: Land for Sewage Disposal
District Lot 4111, Coast District - Fort St. James

Further to your inquiry in respect to our subject property in Fort St. James, we are pleased to advise that BCR Properties Ltd. would be prepared to seek Board of Directors' approval (on or before October 31, 1990) to sell the entire District Lot, comprised of 80+ acres, to the Nak'Azdli Band on the following terms and conditions:

1. Sale price to be \$170,000 comprised of:
 - \$17,000 (10%) non-refundable deposit;
 - \$153,000 balance payable upon transfer of title.
2. The purchase price includes all timber rights on the subject property;
3. Purchaser responsible for any and all costs incurred in respect to subdivision and conveyance.

This Offer is open for acceptance until October 9, 1990, by returning one signed copy of this letter together with the deposit cheque in the amount

. . 2

s.19(1)

Nak'Azdli Indian Band
September 26, 1990
Page 2

of \$17,000. The deposit cheque will only be refundable in the event BCR Properties Ltd.'s Executive does not approve the sale. Due to the nature of the proposed use, this property will not be leased. Please do not hesitate to call me at 984-5308 should you have any further questions.

Yours truly,

AND DONALDSON LTD.

Stanley R. Cooper
Manager
Properties Development
and Municipal Relations

BRC/dmc

The terms and conditions as set out herein are hereby acknowledged and accepted this _____ day of _____, 1990.

Witness

Authorized Signatory



Lion

NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996-7171

October 01, 1990

95445 OCT -3 AIO 37

Department of Indian Affairs
209 - 280 Victoria Street
Prince George, B C
V2L 4X3

Attention Mr Jeff Goldie, District Manager

Dear Mr. Goldie

Re Land/Sewage Disposal

I enclose an offer made by British Columbia Railways (BCR) for the purchase of the property required for sewage disposal by the Band.

The price that they are requesting is out of our reach, unless of course your department comes up with the funds

There are several points we must consider in opening up dialogue with B.C R. officials.

1. It seems that B C.R are taking a firm position not to lease the land We don't agree that they have good reason not to enter into a lease, if necessary.
2. Since B C.R is an Incorporated Company of the crown (British Columbia Government) we see it in their power to re-assign the lands back to the crown for disposition This may alleviate the need to purchase the land
3. How does the new Lands Policy reflect on purchased lands to be allotted as reserve lands *Cost effective; delay*
4. 1970 B C R Land Exchange We are requesting a complete review of this file It is our Council's opinion that the exchange was done improperly, without the consultation of our membership at large. It seems they basically used section 35 of the Indian Act with no regard to the process outlined in section 37 The land involved is not the point but if it was improperly processed then we can use it as a negotiating lever.

- 2 -

- 5 Sewage Alternatives: We will further instruct our engineer to look at other alternatives for the sewage disposal location, but it is our conclusion that the proposed area is the most suitable and ideal for the long term
- 6 The B C R Board of Directors will be meeting here on October 16, 1990. Given the opportunity, I will present to them our needs.

Finally, I conclude by my writing this official request from our Band Council that the Department of Indian Affairs are instructed to proceed with a new lands proposal on our behalf to the Minister.

We feel that the health of our community is at risk if you do not act on this immediately. You are further advised to contact B.C.R. authorities of your intentions of accessing the property on our behalf. I'm sure we can come up with a suitable arrangement within the next year.

Please send copies of all correspondence. I await your reply.

Sincerely,

NAK'AZDLI BAND COUNCIL



CHIEF LEONARD THOMAS

p c. Eric Weins, Stanley & Associates
John Spencer, CSTC

Encl

*no - m mber count
1-1 rather ph 3-1
Tropas w/no comp.*

*Ray Newenfeld
Bradly
Wright PP/Real Est -*

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to Information Act

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Loi sur l'Accès à
l'information

BCR
PROPERTIES

- 170,000
20% timber Tender
to be cleared

September 26, 1990

VIA FAX 996-8010

Nak'Azdli Indian Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Chief Leonard Thomas

Dear Sirs:

Re: Land for Sewage Disposal
District Lot 4111, Coast District - Fort St. James

Further to your inquiry in respect to our subject property in Fort St. James, we are pleased to advise that BCR Properties Ltd. would be prepared to seek Board of Directors' approval (on or before October 31, 1990) to sell the entire District Lot, comprised of 80+ acres, to the Nak'Azdli Band on the following terms and conditions:

1. Sale price to be \$170,000 comprised of: *a value 127,300 - in Tender 70,000 in real estate*
 - \$17,000 (10%) non-refundable deposit;
 - \$153,000 balance payable upon transfer of title.
2. The purchase price includes all timber rights on the subject property;
3. Purchaser responsible for any and all costs incurred in respect to subdivision and conveyance.

This Offer is open for acceptance until October 9, 1990, by returning one signed copy of this letter together with the deposit cheque in the amount

. . . 2

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Loi sur l'accès à
l'information*


s.19(1)

Nak'Azdli Indian Band
September 26, 1990
Page 2

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Yours truly,

BCR PROPERTIES LTD.


Manager
Properties Development
and Municipal Relations

BRC/dmc

The terms and conditions as set out herein are hereby acknowledged and accepted this _____ day of _____, 1990.

Witness

Authorized Signatory

WILLIAMS PRAIRIE MEADOW I R NO. 1A
East 1/2 of District Lot 961 CLSR FB 31141

Sept 4, 1914

Land above

Crown granted to Alexander C Murray under No 6990/61

December 26, 1942

Purchased from Hudson Bay Co. by Crown Canada

January 24, 1966

Memo from Forest Service regarding trespass to P George DIA
of debris on railway line construction

March 28, 1966

Letter to Ginter from P George DIA on Trespass of debris

July 29, 1966

Railway trespassed *Confirmed, T H now did not know railway line*
on IR 1A Thought just debris

August 3, 1966

Confirmed

~~Did work~~ trespass cleaning, burning, leveling, the spoil
banks made by Ben Ginter Const Co Ltd for the storage
area on behalf of PGE Railway Co

February 4, 1967 BCR of Band to accept \$100 per acre from PGE Rail

April 13, 1967

\$2044 00 original amount sent for land sale and cleaning
a storage area (creating), \$1750.00 for this to be done
by the Band Cleanup, culvert, storage yard.

January 8, 1968

Original proposal was to pay \$294 for land (\$100/acre) as
agreed to in February 4, 1967 B.C.R. ~~by~~ BUT Now Land
Exchange to be done per new policy of Band

WILLIAMS PRAIRIE MEADOW I R NO 1A CONT

January 31, 1968

B.C.R. accepting "compensation in acreage equal in value
to land to be taken," signed by Nicholas Prince, Chief,
Betsy Leon, Robert Prince, ~~Layare Pices.~~

Lazare Pius

1-1
vs
3-1

~~April 1, 1968~~

~~Railway entered the 294 ac parcel constructed line
Headquarters now wants exchange verses sale of I.R.~~

December 1969

\$1750.00 credited to Band Revenues (Trust Accounts).

#294 ac returned to PGE Ra'l due to land "exchange"

March 17, 1970

vs land sale

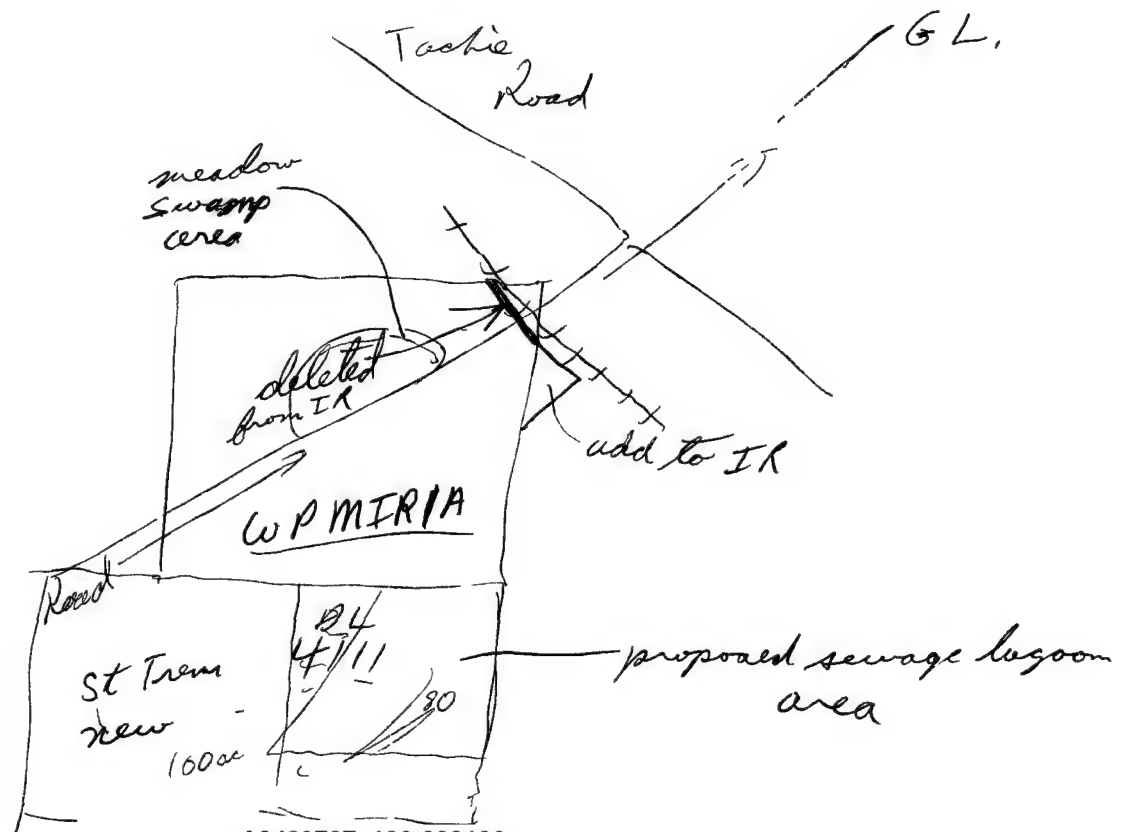
PC 1970-472

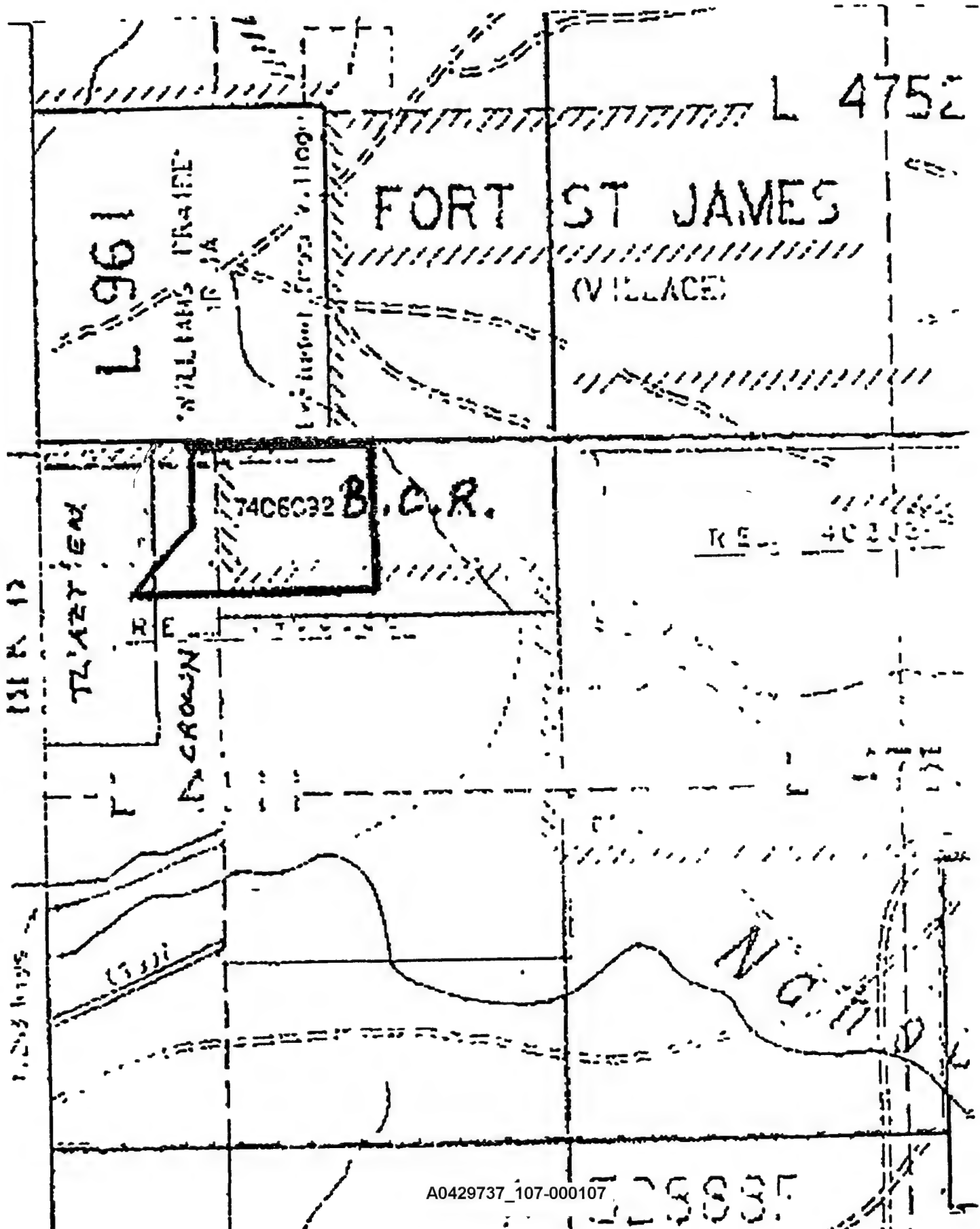
- accepted Lot 1 as shown on CLSR 55752
- set apart Lot 1 above and Williams Prairie Meadow,
- transferred land shown on CLSR 55801 to PGE Railway Co.

June 15, 1970

Indian Land Grant to Pacific Great Eastern Railway Company

*Try to get
meys from
BCR ++
Appraisal
Report*







Health and Welfare Canada Sante et Bien-être social Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

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l'information

Chief Counsellor
Takla Band
Takla Landing via
Fort St James, B C
V0S 1P0

97295

NOV 16 10 35

November 13, 1990

Your file Votre référence

Our file Notre référence

150-5-12

(Takla)

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: September 21, 1990

	<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1.	Pump House - tap	Satisfactory	0	0
2.	Wharf - near church	Unsatisfactory	9	0
3.	George Creek	Unsatisfactory	14	3
4.				
5.				
6.				

RECOMMENDATIONS:

METHOD OF TESTING


The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e g sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B C.

c c CHR, Band Office
J Spencer, P G
~~DISPATCH, P G~~
C H N, Takla Landing
D French, Band Office
R Green, Vancouver


Paul Broda, C P H I (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Health and Welfare Canada Santé et Bien-être social Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Mr Peter John
Village Maintenance
Fort George Band
R R #1, Site 27, Comp 60
Prince George, B C
V2N 2H8

97301

NOV 16 10 35

November 13, 1990

Your file Votre référence

Our file Notre référence

150-5-12
(South Shelly)

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: November 8, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Band Office	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

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If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B C.

c c Band Manager,
J Spencer, P G
~~Dist. Eng., P.G.~~
R Green, Vancouver

Paul Broda
Paul Broda, C P H I (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

/cw

Canada

A0429737_109-000109

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l'information



Health and Welfare Canada
Santé et Bien-être social Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Mr Peter John
Village Maintenance
Fort George Band
R R #1, Site 27, Comp 60
Prince George, B C
V2N 2H8

97298

NOV 16 10 35

November 13, 1990

Your file Votre référence

Our file Notre référence

150-5-12

(Shelly)

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: September 27, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Band Office	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

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If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B C.

c c J Spencer, P G
Dist. Eng. P. G.
R Green, Vancouver

for J. David
Paul Broda, C P H I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Health and Welfare
Canada

Santé et Bien-être social
Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

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November 13, 1990

97300

NOV 16 AIO 35

Mr Peter Luggi
Supervisor
Village Maintenance
Stellaquo Band
Box 760
Fraser Lake, B C V0J 1S0

Your file Votre référence

Our file Notre référence

150-5-12

(Stellaquo)

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: October 29, 1990

	<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1.	Band office - washroom tap	Satisfactory	0	0
2.				
3.				
4.				
5.				
6.				

RECOMMENDATIONS.

METHOD OF TESTING


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REMARKS

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If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B C

c c J Spencer, P G
Dist. Eng., P G.
Woyenne H/C
R Green, Vancouver
CHR, Band Office


Paul Broda, C P H I (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Health and Welfare Canada Santé et Bien-être social Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

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97299

NOV 16 10 35

November 13, 1990

Mr Peter Luggi
Supervisor
Village Maintenance
Stellaquo Band
Box 700
Fraser Lake, B C V0J 1S0

Your file Votre référence

Our file Notre référence

150-5-12

(Stellaquo)

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: October 29, 1990

	<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1.	Band office - washroom tap	Satisfactory	0	0
2.				
3.				
4.				
5.				
6.				

RECOMMENDATIONS:

METHOD OF TESTING


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REMARKS

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If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B C

c c J Spencer, P G
~~Dist. Eng. P.G.~~
Woyenne H/C
R Green, Vancouver
CHR, Band Office


Paul Broda, C P H I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Health and Welfare Canada Santé et Bien-être social Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Chief Counsellor
Stuart Trembleur Band
Box 670
Fort St. James, B C
V0J 1P0

97296

November 13, 1990
NOV 16 AIO 35

Your file Votre référence

Our file Notre référence

150-5-12
(Stuart Trembleur)

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: November 8, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
<u>1.</u> Tachie River	Questionable	1 0	<1 0
<u>2.</u> Stuart Lake	Unsatisfactory	7 0	<1 0
<u>3.</u> Tachie - old school	Satisfactory	0	0
<u>4.</u> Binche - west end	Satisfactory	0	0
<u>5.</u> Binche - east end	Satisfactory	0	0
<u>6.</u>			

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage)

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B C

c c Band Manager, FSJames
G Monk, CHR, Band Office
~~Donna MacKay, MFG~~
E Joseph School, FSJames
CHN, FSJames
R Green, Vancouver

J. Broda
Paul Broda, C P H I (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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August 15, 1990

Your file Votre référence

Our file Notre référence

E4380-614

Chief and Council
Necoslie Band
P. O. Box 1329
Fort St. James, B. C.
VOJ 1P0

Dear Chief and Council:

RE: NECOSLIE BAND - WATER AND SEWER PROJECTS

This is in response to your letter dated July 30, 1990.

The enclosed Project Brief and Management Regime for the 1990/91 Capital Infrastructure Program has been reviewed by T. K. Thien, DIAND Technical Services, and the submission does meet our requirements.

I am advised by T. K. Thien that because the proposed sewage lagoons for the Williams Prairie Meadow is located off reserve and on provincial crown land, the Band must obtain approval or permit from the appropriate provincial approval agencies before proceeding with the construction of the sewerage. It is my understanding that your consultant, Stanley Associates, has taken the necessary steps to obtain such approval or permit.

As time is of the essence, and the Band wishes to proceed with the construction as soon as possible, I would confirm that \$350,000. in regular Capital and \$216,000. in Bill C31 funds are committed under the current 1990/91 fiscal year for the Band to implement the works outlined in your Project Brief. You may proceed with the construction

./2

Canada

of the Williams Prairie Meadow Subdivision upon obtaining all the necessary approvals and permits from the appropriate approval agencies.

Yours truly,

Theresa Nelson
A/Head, Band Support & Capital Management
Prince George Field Office
209 - 280 Victoria Street
Prince George, B. C.
V2L 4X3

Encl.

c.c. John Spencer
T. K. Thien

W REYNIESE

RE WILLIAMS PRAIRIE MEADOW
PRIPOSED SEWAGE LAGOON

Further to our brief discussion on August 16, 1990.

The reasons for siting the proposed sewage lagoon for William Prairie Head on off reserve on Crown land are given below

- 1) In order not to severely limit any future development of the reserve.
- 2) Cost effectiveness Locating the proposed lagoon at on crown land abutting the south boundary of the reserve would save the initial capital cost of \$40 - \$60,000 according to the estimate prepared by the Band consultant Stanley Associates.

I would refer you to my letter dated May 1, 1990
addressed to [REDACTED] A / District

Superintendent, LRT, Prince George It was
~~upon her advice that~~ I consulted her on the
procedure to take. It was her advice

to me to apply for a ~~preliminary~~ license
of occupation for 10 years from the Provincial
Government, and then convert the land to
reserve land. Further more she assured me
that the "construction of municipal facility
off-reserve on crown land with occupation
permit will not jeopardize INAC
Capital Funding".

[Signature]
Project Officer

Province of
British ColumbiaMinistry of
Crown Lands

Land Referral

93066

AUG 13 AM 1:01

APPLICANT PROPONENT NAME Nak'Azdl1 Indian Band		REGIONAL OFFICE ADDRESS AND PHONE No 308, 1011, Fourth Avenue Prince George, B.C. V2L 3H9 565-6245
APPLICATION PROPOSAL DATE 90.07.25	REF MAP No 93-K-050/93-k-8h	OUR FILE No 7406092

Indian and Northern Affairs Canada
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

Attention: Don Reyniese

You are requested to comment on the following application
Your response should be received within 30 days by the
undersigned Where the time limit for response cannot be met,
a verbal response should be made Details of the application
are provided

LOCATION OF LAND Fort St. James	PARCEL SIZE 16.25 ± ha
LEGAL DESCRIPTION Unsurveyed portion of North 1/2 of District Lot 4111, Range 5, Coast District	
INTENDED LAND USE AND PERIOD REQUIRED Community sewage treatment facility and evaporation pond	
ADDITIONAL INFORMATION RELATED TO THE FOLLOWING IS AVAILABLE ON REQUEST	

YOUR COMMENTS MAY BE DISCLOSED TO THE PUBLIC TO JUSTIFY DECISIONS MADE
Lack of response will be considered as a positive reaction to the application

AUTHORIZED SIGNATORY Mark Yawney DATE 90.08 07

RESPONSE SUMMARY	DATE
<input type="checkbox"/> APPROVAL RECOMMENDED	<input type="checkbox"/> INTERESTS UNAFFECTED BY PROPOSED USE
<input type="checkbox"/> APPROVAL RECOMMENDED SUBJECT TO CONDITIONS OUTLINED ON REVERSE	<input type="checkbox"/> APPROVAL NOT RECOMMENDED DUE TO REASONS OUTLINED ON REVERSE
<input type="checkbox"/> PERMIT REQUIRED	
SIGNED BY _____	TITLE _____
	FOR _____

Aueroda



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to Information Act

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l'information

NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996 7171

9 0 9 9 1 JUL -3 A11 28

June 28, 1990

Department of Indian Affairs
209 - 280 Victoria Street
Prince George, B C
V2L 4X3

Attention T K Thien,
Engineer Technical Services

Dear Mr Thien

Re Water & Sewer, Williams Prairie Meadow

For your information you are hereby being advised to sit on the project team on behalf of the Department of Indian Affairs/Public Works Canada. Should you not wish to accept the role, we will be acceptable to a suitable replacement.

Should you have any questions, feel free to call or inquire to Theresa Nelson, A/H, Band Support & Capital Management.

Sincerely,

NAK'AZDLI BAND COUNCIL

CHIEF LEONARD THOMAS

p c (Theresa Nelson, DIA)
Jeff Goldie, DIA
John Spencer, CSTC
Eric Weins, Stanley Associates



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l'information

NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996 7171

90992 JUL -3 A11 '28

June 28, 1990

Carrier Sekani Tribal Council
200 - 1460 Sixth Avenue
Prince George, B C
V2L 3N2

Attention Mr John Spencer,
Engineering

Dear Mr Spencer

Re Williams Prairie Meadow Water & Sewer Project

You are hereby being advised that the Band Council is appointing you to project team of the above mentioned. You will be expected to monitor the program by frequent weekly meetings.

Should you have any additional information, please phone our office.

Sincerely,

NAK'AZDLI BAND COUNCIL

CHIEF LEONARD THOMAS

p c Theresa Nelson, DIA,
Eric Weins, Stanley Associates



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to Information Act
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l'information

NAK'AZDLI BAND COUNCIL

P O Box 1329, Fort St James, B C V0J 1P0
Telephone 996 7171

9 0 9 9 3 .III -3 A11 28

June 28, 1990

Stanley Associates Engineering Ltd
344 Seymour Street
Kamloops, B C
V2C 2G2

Attention Mr Eric Weins,
Project Consultant

Dear Mr Weins

Re Williams Prairie Meadow Project

You are hereby being advised as per our telephone conversation today that the band has decided to undertake the Williams Prairie Water & Sewer project as a Band Management Project. Your responsibilities is as follows

1 To ensure that the project goes in accordance to Stanley Associates proposal or even better

2 (a)

That you will be in charge to list all the material required to construct the water & sewer lines and that the list is provided to our office, so the proper purchasing (P O) mechanisms take place for administrative purposes

(b)

You are further advised that we get quality materials at the least possible pricing (as you know its nice to generate a surplus)

- 2 -

2 (c)

We will take your advise as to who would be best possible to act as Construction Manager We expect a person with the best experience and qualifications We will decide if we agree to hire the person

3 Wherever machinery, (i e) the crawler digger, will be contracted to band members interested in carrying out the work Wherever other equipment is needed you will advise us, at which time we will decide who to hire

4 We will contract out the pump house and well development as you suggested We expect your advise on who that maybe

I believe that is all we covered, should you require additional information, call me at 996 - 7171

Sincerely,

NAK'AZDLI BAND COUNCIL



CHIEF LEONARD THOMAS

p c John Spencer, CSTC
Theresa Nelson, DIA /



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et inuit

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Chronological No. - Numéro consécutif
985/614-25 (90/91)

File Reference - Numéro de dossier
4215-4-614 380-614
5820-614
5820-3-1

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

NOTE The words From our Band Funds Capital or Revenue whichever is the case must appear in all resolutions requesting expenditures from Band Funds
NOTA Les mots des fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE Nak'azdli Band	Current Capital Balance Solde de capital	\$
AGENCY DISTRICT Prince George	Committed - Engagé	\$
PROVINCE British Columbia	Current Revenue balance Solde de revenu	\$
PLACE NOM DE L'ENDROIT Fort St James	Committed - Engagé	\$
DATE 06 DAY - JOUR 06 MONTH - MOIS AD 19 90 YEAR - ANNÉE		

DO HEREBY RESOLVE
DÉCIDE, PAR LES PRÉSENTES

WHEREAS the Nak'azdli Indian Band is Constructing Water and Sewer Lines for Indian Reserve #1A and,

WHEREAS there is a need to harvest forest timber to complete this project and,

WHEREAS the timber shall be sold for the benefit of the Band,

BE IT RESOLVED that we are requesting the Department of Indian Affairs in issuing a Timber Permit (Timber Mark) to complete and carry out the project

A quorum for this Bande
Pour cette bande le quorum est

consists of Five (05)
fixé à

Council Members
Membres du Conseil

Frederick Sam
(Councillor - conseiller)
Robert Sam
(Councillor - conseiller)
Ken Sam
(Councillor - conseiller)
Lucian Sam
(Councillor - conseiller)

[Signature]
(Chief - Chef)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RESERVÉ AU MINISTÈRE				
1 Band Fund Code Code du compte de bande	2 COMPUTER BALANCES - SOLDES D ORDINATEUR A Capital B Revenue - Revenu	3 Expenditure Depenses	4 Authority - Autorité Indian Act Sec Art de la Loi sur les Indiens	5 Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
6 Recommended - Recommandable		Approved - Approuvable		
Date		Recommending Officer - Re A0429737_124-000124		
		Approving Officer - Approuvé par		



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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l'information*

June 18, 1990

Your file Votre référence

Our file Notre référence

4215-4- 614

Chief and Council
Nak'azdli Band

Re Band Council Resolution

Purpose: Request for timber mark for harvesting
timber on I.R. #1A for construction of Water and
Sewer Lines.

We acknowledge receipt of the above noted Band Council Resolution
dated June 6/90.

It has been assigned B.C.R.# 985/614-25(90/91) and
forwarded to the appropriate program manager for action.

Yours truly

DOUG SALTON
SUPPORT SERVICES SUPERVISOR
PRINCE GEORGE DISTRICT
209-280 VICTORIA STREET
PRINCE GEORGE, B.C.
V2L 4X3

Canada

A0429737_125-000125



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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June 20, 1990

Your file Votre référence

Our file Notre référence

E4380-614

Chief & Council
Necoslie Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Dear Chief & Council:

Re: Water and Sewer Subdivision

Thank you for your Project Brief and Management Regime for the 1990/91 Capital Infrastructure Program.

I have reviewed the Document and on the whole, feel it is well prepared and fairly complete with the below noted exceptions.

1. Require a break-down on the cost estimate prepared by the consultant,
2. Implementation, who is going to do the work, contract or Band labour,
3. T.K. Thien area Engineer Technical Services should be a member of the project team,
4. Eric Wiens is the Band Project Manager and is the Band Consultant, this is a conflict of interest.

I would ask that your Project Brief and Management Regime be amended to reflect these changes and resubmitted as soon as possible to enable us to amend your comprehensive funding arrangement to include Capital.

Should you require further information regarding the above, please contact the undersigned.

Yours truly,

THERESA NELSON
A/Head, Band Support & Capital Management
Prince George Field Office
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

cc: T.K. Thien, Technical Services, B.C. Region

Canada

A0429737_126-000126

Plan should include

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to Information Act

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l'information

- A breakdown on the cost estimate prepared by consultant.

• Management Regime

• Implementation

Who is going to do the work is
by contract
or

Band labour

↓ I noted that Eric Wiens is the Band
Project Manager, and the Band Consultant.
There is a conflict of interest!

I think I have to be included
in the Project Team.

Phil

June 12/9.



Public Works
Canada
Pacific Region

Travaux publics
Canada
Region du Pacifique

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l'information

May 1, 1990

87803

MAY -2 AIO 43

E4380-614

Ms. Gina Beddone
A/District Superintendent
Lands, Revenue and Trust
Prince George Field Office

Dear Gina

RE: WILLIAM PRAIRIE MEADOW
PROPOSED SEWAGE LAGOON

I am writing in connection, on the subject of construction of municipal facility off reserve on Crown land.

The proposed facility in question is located at Williams Prairie Meadow. The Band consultant has recommended facultative and evaporation lagoons as the most appropriate wastewater treatment-disposal system for the community. While the lagoon facility could be located within the reserve land, this would severely limit any future development. For this reason the consultant has recommended that the lagoon facility be constructed off reserve on Crown land abutting the south boundary of the reserve.

In response to my enquiry as to the correct procedure to take, you advised the following:

1. Obtain a license of occupation for 10 years from the Provisional Government. The license can be in the name of the Band or the Department. Once the license is obtained and a legal surveyed plan is prepared, the Department (LRT) can proceed to convert the parcel of land into reserve land, (which is a time consuming process and can take up to 3 years). The construction of municipal facility off-reserve on crown land with occupation permit will not jeopardize INAC Capital funding.
2. Obtain a statutory right of way for the proposed facility.

Acting on your advice, I have told the Band consultant to proceed with the application for a license of occupation for 10 years for the proposed sewage facility.

T.K. Thien

T.K. Thien,
Area Project Engineer
DIAND Technical Services, PWC
B.C. Region

cc Theresa Nelson, Prince George District

Canada



Public Works
Canada
Pacific Region

Travaux publics
Canada
Region du Pacifique

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Loi sur l'accès à
l'information

May 1, 1990

8 7 8 0 3

MAY -2 AIO 43

E4380-614

Ms. Gina Beddone
A/District Superintendent
Lands, Revenue and Trust
Prince George Field Office

Dear Gina

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Acting on your advice, I have told the Band consultant to proceed with the application for a license of occupation for 10 years for the proposed sewage facility.

T.K. Thien

T.K. Thien,
Area Project Engineer
DIAND Technical Services, PWC
B.C. Region

cc Theresa Nelson, Prince George District

Canada

000456

NECQUIE BAND COUNCIL
P O. BOX 1329
FORT ST JAMES, B C
VOJ 1P0
TELEPHONE 996 - 7171
FAX NUMBER 296 - 8010

File 4380-614

81938

JAN 16 AIO 58

FAX COMMUNICATION FORM

PRIORITY HIGH ☒ MEDIUM ☐ LOW ☐

PAGE 01 OF 04

TO

Theresa Nelson

FROM:

Ron Sam

PORTFOLIO

Capital

FILE #:

Here are the letters sent to
Stuart Lake Lumber Co as well
as the renewed Jan. 10/90 from
Mr Gordon

IF FURTHER SPACE IS REQUIRED, USE SECOND PAGE

MESSAGE PREPARED BY

Ron Sam

SIGNATURE OF PERSON AUTHORIZING MESSAGE

DATE.

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l'information



Stuart Lake

Lumber Co Ltd

P.O. BOX 5, FORT ST JAMES B.C. V0J 1P0 TELEPHONES 996-8259 996 8250

January 09, 1990

NAK'AZDLI BAND COUNCIL
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

ATTENTION Ronald G. Sam

Dear Mr Sam,

In regards to your letter of January 5, 1990 this is to advise that Stuart Lake Lumber is not prepared, at the time to negotiate any hook-ups to our water system

If Stuart Lake Lumber had a circumstance that required us to use our water reserve we would be unable to satisfy even our own needs, let alone any other parties, for a period of several weeks while we replenished our loss of water. As well our anticipated future water use is higher than first thought. As a result we do not feel we will have any excess water in the years to come. If our plans or this situation changes in the future we will not hesitate to contact you in order to arrange a meeting

Thank you.

Yours truly,

R.A. Goodwin
General Manager

The water reserve is a 600,000 gal open pond to supply a 1500 gal pump for our sprinkler system

RECEIVED

JAN 10 1990

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to Information Act

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l'information



NAK'AZDLI BAND COUNCIL

P.O. Box 1329 Fort St James, B.C. V0J 1P0
Telephone 996 7171

January 05, 1990

Stuart Lake Lumber Co. Ltd
P.O. Box 5
Fort St. James, B.C.
V0J 1P0

ATTENTION MR. BOB GOODWIN

Dear Mr Goodwin

Re Williams Prairie Meadow Water Study

A brief overview in regards to the water study done on Williams Prairie Meadow

Originally, a proposed plan was for developing forty-one (41) lot sub-division on the Williams Prairie Meadow. First item was to prove if there was sufficient water to service these lots. Duncan & Associates was hired to drill and do tests on the availability of water. They drilled two wells, with the results as one well showed 20 gallons per minute and the other well being dry.

Two other wells were drilled in previous years, one being abandoned while the other well showed 67 gallons per minute.

Duncan & Associates did a pump test on the B.C.R. Well which showed 72 gallons per minute.

In order to accommodate a 41 lot sub-division, Williams Prairie Meadow would require 214 gallons per minute.

So, our only alternative is to request from you to possibly negotiate with the Band on a possible hook-up to your existing well. The question being, are you willing to negotiate with the Band to a possible hook-up to your well?

A definite answer to our request would be greatly appreciated as soon as possible, as additional funds for Williams Prairie Meadow study are pending on your decision.

/2

Page 2
Nak'azdli Band Council
January 05, 1990

If you have any questions please call the undersigned Thank you for
your attention to this matter

Sincerely,

NAK'AZDLI BAND COUNCIL

for *R. Sam*
RONALD G SAM
Senior Manager

RGS lsm



Government
of Canada

Gouvernement
du Canada

CLOSED VOLUME VOLUME COMPLET

Dated From
À compter du

05/86

To
Jusqu'au

06/95

AFFIX TO TOP OF FILE - À METTRE SUR LE DOSSIER

DO NOT ADD ANY MORE PAPERS - NE PAS AJOUTER DE DOCUMENTS

FOR SUBSEQUENT CORRESPONDENCE SEE - POUR CORRESPONDANCE ULTÉRIEURE VOIR

File No. - Dossier n°

E4380-614

Volume

4



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

June 28, 1995

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l'information

PA

Your file Votre référence

E4315-614 Our file Notre référence

E4380-614 PA

Rick Senger
Carrier Sekani Tribal Council Technical Services
1460 6th Ave.
Prince George, B.C.
V2L3N2

Fax: 604-562-0900

Re: Project submission for "Miscellaneous Capital Asset Upgrade" Nak'azdli

Thank you for the project submission titled "Miscellaneous Capital Asset Upgrade" for the Nak'azdli Band. This project consists of improvements to a water system, a sewer system and a storm sewer system. Our department manages the capital program by assigning priorities to each project and then allocating funding based on the priorities.

This project is considered to have three components all with a different priority and therefore must be processed as three projects. Please resubmit this project as three separate projects.

Please call me if there are any questions on this matter.

Sincerely,

Brian J. Rundle
Funding Services Officer
Unit North
604-775-5935

cc: Ron Sam, Band Manager, Nak'azdli Band Fax 996-8010

Canada

A0429738_2-000135

Printed on recycled paper - Imprimé sur papier recyclé

Page 136
is not relevant
est non pertinente

**Pages 137 to / à 171
are withheld pursuant to section
sont retenues en vertu de l'article**

20(1)(b)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

E4380-614

B. Rundle

Carrier Sekani Technical Services

1460 6th Ave.
Prince George, B.C. V2L 3N2
Tel: 562-8999 Fax: 562-0900

FAXED - NOV 28

File No. 2020-1-614-4-01

November 28, 1994

7410 95 JUN 27 - 8:57

Nak'azdli Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Re: Nak'azdli Storm Sewer

Attention: Ron Sam

Dear Sir;

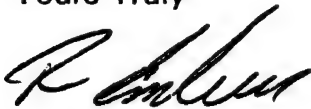
On August 18, 1994 I performed a final inspection of the Storm Sewer Project. All portions of the work were completed except the piling of the cleared material onto the right of way prior to burning. The material has since been moved onto the right of way.

P & P Construction has therefore completed the work called for in the Contract Documents in accordance with the general conditions.

More than 41 days has elapsed since the final inspection and the holdback portion of the progress claim is due to be released to P & P Construction Ltd. My records show that the amount of \$35,879.12, as shown on progress claim No. 3 should now be released.

If you have any questions concerning the above please call for further information or clarification.

Yours Truly



Roger Embree
CSTS

cc: Lorne Delisle

CERTIFICATE OF COMPLETION

1. Interim <u>Final</u> (<input checked="" type="checkbox"/>)		2. Effective Date AUGUST 18, 1994	
3. Financial Code	4. Contract No.	5. Location NAKIAZOLI	
6. Contractor D & P CONTRACTING LTD.		7. Project Title NAKIAZOLI STORM SEWER	
8. Incomplete work, deficiencies and faults			

BURNING OF CLEARED MATERIAL, BY OWNER

Appendix attached () yes (☒) no

The project manager, before issuing a final certificate of completion, may, in addition to the matters described in the interim certificate of completion, require the contractor to rectify any other portions of the work not completed to the satisfaction of the project manager and do any other things necessary for the completion of the work.

9. Remarks

Final Certificate of Measurement attached () yes (☒) no

Appendix attached () yes (☒) no

10. Statement of the Project Manager

I hereby certify that all the work called for in the contract described above has been completed in accordance with the general conditions of the contract.

NOV 14 1994
Date

[Signature]
Project Manager



NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
Telephone 996-7171
Fax 996-8010

May 18, 1995

Mr Bill Geurin,
Funding Services North
1550 Alberni Street
Vancouver, B.C.

Dear Bill:

After talking with T. K. Thein, DIA Engineer of your office and examining the well head at I R #1(A), it is recommended that a steel fence be erected around the well head for protection and security. This would protect the area around the well head from possible contamination.

The Nak'azdli Band would like to access some project funds from your office if possible.

If you want more details, contact T.K. at engineering who has seen it, specifications and details can be provided by our Senior Manager, Ron Sam at our office.

Thank you, Sincerely,

Robert Antoine

Chief Robert Antoine

Encl.

RA/mp

Brian
Pls re: Nak'azdli band
that we need a project brief
etc. Do by phone follow
up with letter. Talk to
Frank if any clarification
is required
TH
25/5/95



Health Canada Santé Canada

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F4380-614

R. GREEN

Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

May 9, 1995

Our file Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

4473
95
MAY 12 11:49

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 4th May 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Health Clinic	0	0	0
Larry Leon, Nak'azd'li 1A	32	2	0
Leonard Thomas Home outside tap	64	14	0
Nak'azd'li-Williams Prairie Pumphouse potable water tap	0	16	0
Naz'azd'li-Williams Prairie Reservoir surface water	0	728	0

RECOMMENDATION

Residents at Williams Prairie should continue to boil until further notice.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

Canada

A0429738_42-000175

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
 INAC
CHN



Health Canada Santé Canada

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Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

May 23, 1995

Our file Notre référence
150-5-12

Chief Councillor -
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 18th May 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Edna Cameron Williams Prairie	0	0	0
Yvonne Gilbert Williams Prairie	0	0	0

Note: The above results were satisfactory for bacteria.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR, CHN
CSTC
INAC

Canada

A0429738_44-000177



Health Canada Santé Canada

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F4380-614
R. GREEN

Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

May 9, 1995

Our file Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

4473 95 MAY 12 11:49

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 4th May 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Health Clinic	0	0	0
Larry Leon, Nak'azd'li IA	32	2	0
Leonard Thomas Home outside tap	64	14	0
Nak'azd'li-Williams Prairie Pumphouse potable water tap	0	16	0
Naz'azd'li-Williams Prairie Reservoir surface water	0	728	0

RECOMMENDATION

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Canada

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC
CHN



Health
Canada

Santé
Canada

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Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

May 23, 1995

Our file Notre référence
150-5-12

Chief Councillor -
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 18th May 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Edna Cameron Williams Prairie	0	0	0
Yvonne Gilbert Williams Prairie	0	0	0

Note: The above results were satisfactory for bacteria.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR, CHN
CSTC
INAC

Canada

A0429738_47-000180

Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

May 2, 1995

4204 '95 MAY -9 10:37

Our file Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT**DATE COLLECTED:** 26th April 1995, Collected by D.McKenzie.

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Health Centre kitchen sink	12	52	0
Nak'azd'li Health Centre bathroom sink	0	0	0
Vincent Alexandre	104	46	0
Larry & Ruth Leon kitchen sink	174	90	0
Edna Laverne Cameron kitchen sink	102	74	0

RECOMMENDATION Williams Prairie water should be boiled until further notice.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC
CHN



Health Canada Santé Canada

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E4380-614
R.Gron

Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file / Votre référence

March 22, 1995

Our file / Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

1876 '95 MAR 31 10:24

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 16th March 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li PetroCan Ft.St.James Supply	0	22	0

RECOMMENDATIONS Site to be resampled.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

P. Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District
CHN

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A0429738_50-000183



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TK Thin

Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

March 7, 1995

Our file Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

1152
95

Dear Chief Councillor,

Re: Annual Summary of Water Bacteriology - 1994

Please find attached a compilation of results for your communities which were tested in 1994. This will allow for a quick overview of the data.

If you have any questions, please feel free to contact our office at 561-5379.

Yours truly,

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC
CHN

Canada

A0429738_51-000184

February, 1995

1994 WATER BACTERIOLOGY SUMMARY FOR:

NAK'AZD'LI

<u>SOURCE</u>	<u>DATE SAMPLE TAKEN</u>	<u>GENERAL BACTERIAL POPULATION</u>	<u>TOTAL COLIFORM</u>	<u>FECAL COLIFORM</u>
Leonard Thomas Williams Prairie	03/30/94	0	tntc plate overgrown	0
Petro-Canada Station Nak'azd'li	03/30/94	0	0	0
Randy Alexander Well	04/20/94	0	4	0
Taya Gregg, Williams Prairie	04/20/94	10	0	0
Leonard Thomas, Williams Prairie	04/20/94	0	2	0
Nak'azd'li Clinic Community Well	05/26/94	0	0	0
Nak'azd'li Williams Prairie Well	05/26/94	23	0	0
Nak'azd'li Village Ft.St.James Well Supply	06/08/94	tntc	0	0
Leonard Thomas home Nak'azd'li/Williams Prairie	06/08/94	0	0	0
Nak'azd'li Reserve Ft.St.James Well Supply	06/22/94	0	0	0
Leonard Thomas home Williams Prairie/Nak'azd'li	06/22/94	0	0	0
Binche Community well	06/22/94	0	0	0
Leonard Thomas Home Nak'azd'li/Williams Prairie	08/15/94	31	12	0
Village well supply Nak'azd'li	08/15/94	0	0	0

TNTC - too numerous to count

February, 1995

1994 WATER BACTERIOLOGY SUMMARY FOR:

NAK'AZD'LI

<u>SOURCE</u>	<u>DATE SAMPLE TAKEN</u>	<u>GENERAL BACTERIAL POPULATION</u>	<u>TOTAL COLIFORM</u>	<u>FECAL COLIFORM</u>
Log House, south of Pumphouse Williams Prairie/Nak/azd/li	09/01/94	0	0	0
Leonard Thomas home Williams Prairie/Nak'azd'li	10/13/94	0	tntc	0
Nak'azd'li Health Clinic Ft.St.James	11/16/94	0	tntc	0
Cyril Gregg home Nak'azd'li/Williams Prairie	11/16/94	0	76	0
Nak'azd'li Petro Canada Community Water, Ft.St.James	12/13/94	0	0	0
Leonard Thomas Home, kitchen tap Nak'azd'li, 1A Williams Prairie	12/13/94	20	4	0
Leonard Thomas Home NSA Filter Unit Nak'azd'li, 1A	12/13/94	0	0	0

TNTC - TOO NUMEROUS TO COUNT



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Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
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0672 '95 MAR 10 14:33
Your file / Votre référence

March 7, 1995

Our file / Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 2nd March 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Williams Prairie Autowreckers	0	0	0
Nak'azd'li Health Clinic kitchen sink	0	8	0

RECOMMENDATION Clinic should continue to boil water until further notice.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR, CSTC
INAC, CHN

Canada

CMHC SCHL

Helping to
house Canadians
Vancouver Branch Office
Suite 400
2600 Granville Street
Vancouver, B.C.
V6H 3V7
Fax: (604) 737-4125
Tel: (604) 731-5733

Question habitation,
comptez sur nous
Succursale de Vancouver
Porte 400
2600, rue Granville
Vancouver, (C.-B.)
V6H 3V7
Fax: (604) 737-4125
Tel: (604) 731-5733

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FEBRUARY 1, 1995

9281 '95 FEB 13 12:04

NAK'AZDLI INDIAN BAND
P.O. BOX 1329
FORT ST. JAMES BC V0J 1P0

ATTENTION: RONALD G. SAM, SENIOR MANAGER

CMHC REF: 13-403-837/004
LOAN NO: 15-619-901
SUBJECT: MORTGAGE RENEWAL REMINDER

RE: NAK'AZDLI INDIAN BAND

Further to our letter of 94/12/01, we wish to take this opportunity to remind you that the loan, for the above noted account is scheduled to renew in TWO MONTHS time.

CMHC has specific requirements for the renewal of an On-reserve loan, if you have not done so already, then please proceed with the renewal of your loan as outlined below.

1. Band is to invite quotes from three Lenders. All quotes submitted must be based on the same "loan terms" (eg. 5 yr term).
2. The Band MUST SELECT THE LOWEST INTEREST RATE, which must not exceed the NHA Non-Profit maximum. Please contact CMHC to verify that the rate selected is acceptable.
3. Complete attached form (Register/Reports - Quotes) immediately upon acceptance of the lowest quote and forward to our office (via Fax - 737-4125).

NOTE: IN THE EVENT THAT YOU "SWITCH" LENDERS, YOU WILL BE REQUIRED TO PREPARE A SPECIAL BAND COUNCIL RESOLUTION AND A NEW MINISTERIAL GUARANTEE. THIS CAN BE OBTAINED FROM YOUR INAC DISTRICT OFFICE. PLEASE CONTACT THEM FOR FURTHER INSTRUCTIONS ON HOW TO PROCEED.

...2/

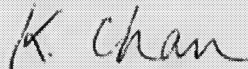


- 2 -

If you have already completed the renewal of your loan, then please forward a copy of the revised loan particulars (Lenders Commitment Letter), to our office as soon as possible.

If you are having difficulties with the renewal of your loan, then please feel free to contact the undersigned at 737-4134.

Yours truly,



Karen Chan
Portfolio Management

Encl.

cc: INAC - Lewis Wong, Regional Housing Officer



Health Canada Santé Canada

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Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

January 30, 1995

Our file Notre référence
150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 25th January 1995

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Bathroom @ H.C.	0	overgrown	0
Nak'azd'li kitchen sink @ H.C.	28	48	0

RECOMMENDATION To be resampled at various locations.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR, CHN
CSTC
INAC, District

Canada



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J. K. THIER

Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
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Our file Notre référence

December 16, 1994 864 '94 DEC 23 11:55

150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 13th December 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nakazdli Petro Canada Community Water Fort St. James	0	0	0
Leonard Thomas Home kitchen tap Nakazdli, 1A Williams Prairie	20	4	0
Leonard Thomas Home NSA Filter Unit Nakazdli, 1A	0	0	0

Note: The above results were satisfactory for bacteria.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

Canada

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I.(C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District
CHN



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T. K. Thien

Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
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Your file / Votre référence

Our file / Notre référence

November 18, 1994

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC. V0J 1P0

1505-12

5164

94

NOV

25

11:08

WATER BACTERIOLOGY REPORT

DATE COLLECTED: November 16 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Health Clinic Ft. St. James	0	*tntc	0
Cyril Gregg Home Nak'azd'li/Williams Prairie Well	0	76	0

*TNTC - too numerous to count.

RECOMMENDATION

Resampling required for both sites.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR, CSTC
INAC, District

Canada

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T.K. THORN

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Occupational & Environmental Health Services
North East District
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Prince George, BC
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Your file Votre référence

Our file Notre référence

October 20, 1994

150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

3198 94 OCT 24 13:33

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 13th October 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Leonard Thomas Home Williams Prairie/Nakazdli	0	tntc*	0

*TNTC - too numerous to count

RECOMMENDATION

All drinking water must be boiled.

REMARKS

The analyses were carried out by membrane filtration in accordance with current A.P.H.A. Standard Methods. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

J. Heulman
For Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District
CHN

Canada

E4380-614

R. Green

Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
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Your file Votre référence

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October 3, 1994
Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC. V0J 1P0

150-5-12

WATER BACTERIOLOGY REPORT

DATE COLLECTED: September 29th 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Leonard Thomas Home Nakazdli/Williams Prairie	tntc*	128	94
Nakazdli Village well	0	0	0
South End resident	tntc	130	94

21 (240)
94
0
5
9
37

*TNTC - too numerous to count.

RECOMMENDATION

Boiling recommended as a precaution at Williams Prairie. Another disinfection of the reservoir and flushing of water lines may be required.

REMARKS

The analyses were carried out by membrane filtration in accordance with the latest procedures outlined by the A.P.H.A. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.



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Public Service Health
North East District
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Prince George, BC
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1745 '92 FEB-6 11:58

Your file Votre référence

Our file Notre référence
150 512
Necoslie

January 22, 1992

Chief Councillor
Necoslie Band
Box 1329
Fort St. James, B.C.
V0J 1P0

**WATER BACTERIOLOGY TEST REPORT FOR SAMPLES
COLLECTED: November 13, 1991**

<u>Sample Location - Source</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Bernadette Joseph	Satisfactory	1*	0
Leonard Thomas - Necoslie IA	Satisfactory	1*	0
Development Corporation - Village Well	Satisfactory	0	0
Nick Prince - Long Island Lake Intake	Satisfactory	0*	0

* some non-coliform present

METHODOLOGY

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water & Wastewater" 16th Edition, published by the A.P.H.A.

REMARKS

Guidelines for Canadian Drinking Water Quality, 1989, state that (1) no sample should contain more than 10 total coliform organisms per 100 ml, none of which should be fecal coliform and (2) no consecutive samples from the same site should show the presence of coliform.

If you have any questions, please contact your environmental Health Officer at 561-5379, Prince George, B.C.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CHN
I.N.A.C., District
I.N.A.C., Vancouver



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Your file Votre référence

Our file Notre référence
150-5-12
Nak'azkli

December 30, 1991

Chief Councillor
Nak'azdli Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY TEST REPORT FOR SAMPLES COLLECTED:

Sample Date: September 24, 1991

<u>Sample Location - Source</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Village Well Supply	Satisfactory	0	0
2. Loretta Bird, Necoslie 1A - Village Well	Satisfactory	0	0
3. Health Clinic, Oct.9/91	Satisfactory	0	0

RECOMMENDATIONS:

METHODOLOGY:

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water & Wastewater" 16th Edition, published by the A.P.H.A.

REMARKS:

Guidelines for Canadian Drinking Water Quality, 1989, state that (1) no sample should contain more than 10 total coliform organisms per 100 ml, none of which should be fecal coliform and (2) no consecutive samples from the same site should show the presence of Coliform.

9378 92 JAN 15 11:45

If you have any questions, please contact your environmental Health Officer at 561-5379, Prince George, B.C.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District
INAC, Vancouver
CHN



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3296 91 JUL 17 14 22

June 27, 1991

Your file Votre référence
Our file Notre référence

Chief Councillor
Necoslie Band
Box 1329
Fort St. James, BC
VOJ 1P0

150-5-12

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria):

SAMPLE DATE: May 24, 1991

<u>Sample Source-Location</u>	<u>Results</u>	<u>Total</u> <u>Coliform</u>	<u>Fecal</u> <u>Coliform</u>
1. Williams Prairie	Satisfactory	0	0

RECOMMENDATIONS:

METHOD OF TESTING:

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 17th Edition, published by the American Public Health Association, 1989, (Membrane Filter Technique, Millipore Equipment).

REMARKS:

Guidelines for Canadian Drinking Water Quality, 1989 state that 1) no sample should contain more than 10 total coliform organisms per 199 ml, none of which should be fecal coliform and 2) no consecutive samples from the same site should show the presence of coliform. Fecal coliform indicate contamination by animal faeces or human sewage while total coliform may be naturally present from soil or plants.

If you have any questions please contact your Environmental Health Officer at 561-5379, Prince George, B.C.

Paul Broda

Paul Broda, B.Sc. C.P.H.I.(C)
Environmental Health Officer
Occupational & Environmental Health Services

Canada

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3293 '91 JUL 17 14 22

Your file / Votre référence
June 27, 1991

Chief Councillor
Nak'azkli Band Office
Box 1329
Fort St. James, BC
VOJ 1P0

Our file / Notre référence

150-5-12

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria):

SAMPLE DATE: May 23, 1991

<u>Sample Source-Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Nak'azdli, Kwah Centre	Satisfactory	0	0

RECOMMENDATIONS:

METHOD OF TESTING:

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 17th Edition, published by the American Public Health Association, 1989, (Membrane Filter Technique, Millipore Equipment).

REMARKS:

Guidelines for Canadian Drinking Water Quality, 1989 state that 1) no sample should contain more than 10 total coliform organisms per 199 ml, none of which should be fecal coliform and 2) no consecutive samples from the same site should show the presence of coliform. Fecal coliform indicate contamination by animal faeces or human sewage while total coliform may be naturally present from soil or plants.

If you have any questions please contact your Environmental Health Officer at 561-5379, Prince George, B.C.

Paul Broda

Paul Broda, B.Sc. C.P.H.I.(C)
Environmental Health Officer
Occupational & Environmental Health Services

c.c. CHR
CSTC
INAC, District
~~INAC, Vancouver~~
CHN

Canada

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3297 91 JUL 17 14 22 May 24 1991

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Chief Councillor
Necoslie Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Our file Notre référence

150-5-12

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria):

SAMPLE DATE: April 4, 1991

<u>Sample Source-Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Williams Prairie	Satisfactory	0	0

RECOMMENDATIONS:

METHOD OF TESTING:

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS:

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

Paul Broda

Paul Broda
Environmental Health Officer
North East District
Occupational & Environmental Health Services

c.c. CHR
CSTC
INAC, District
~~INAC, Vancouver~~
CHN



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Public Service Health

#409 - 280 Victoria St. 0529 '91 JUN 24 14:19
Prince George, B.C.
V2L 4X3

Your file / Votre référence
June 18, 1991

Our file / Notre référence

Chief Councillor
Nak'azdli Band
Box 1329
Fort St. James, BC
V0J 1P0

150-5-12

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria):

SAMPLE DATE: June 10, 1991

<u>Sample Source-Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Leonard Thomas Home (1A Water System)	Satisfactory	0	0

RECOMMENDATIONS:

METHOD OF TESTING:

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 17th Edition, published by the American Public Health Association, 1989, (Membrane Filter Technique, Millipore Equipment).

REMARKS:

Guidelines for Canadian Drinking Water Quality, 1989 state that 1) no sample should contain more than 10 total coliform organisms per 199 ml, none of which should be fecal coliform and 2) no consecutive samples from the same site should show the presence of coliform. Fecal coliform indicate contamination by animal faeces or human sewage while total coliform may be naturally present from soil or plants.

If you have any questions please contact your Environmental Health Officer at 561-5379, Prince George, B.C.

Paul Broda

Paul Broda, B.Sc. C.P.H.I.(C)
Environmental Health Officer
Occupational & Environmental Health Services

c.c. CHR
CSTC
District Engineer - PWC - PG
CHN
Ron Green - PWC - Vanc

Canada

A0429738_70-000203



Health and Welfare
Canada

Santé et Bien-être social
Canada

Public Service Health
#409 - 280 Victoria St.
Prince George, B.C.
V2L 4X3

Chief Councillor
Necoslie Band
Box 1329
Fort St. James
BC VOJ 1P0

R. Green
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to Information Act **E4380-614**
Communiqué en vertu de la
Loi sur l'accès à
l'information **TDW**

June 11, 1991
Your file Votre référence

Our file Notre référence

150-5-12

9275 '91 JUN 14 10:16

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria):

SAMPLE DATE: April 30, 1991

<u>Sample Source-Location</u>	<u>Results</u>	<u>Total</u> <u>Coliform</u>	<u>Fecal</u> <u>Coliform</u>
1. Band Office	Satisfactory	0	0

RECOMMENDATIONS:

METHOD OF TESTING:

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS:

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation, while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

Paul Broda

Paul Broda
Environmental Health Officer
North East District
Occupational & Environmental Health Services

c.c. CHR
CSTC
CHN
INAC, Vancouver
INAC, Prince George

Canada



Health and Welfare
Canada

Santé et Bien-être social
Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Mr. J. Thomas
Necoslie Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Dear Mr. Thomas:

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: January 31, 1991

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Williams Prairie - Mr. Thomas Residence	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

Canada

Paul Broda
Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North West District
A0429738_72-000205
1 & Environmental Health Services

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to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

February 4, 1991

Your file Votre référence

Our file Notre référence

150-5-12 (Necoslie)

4236 79 FEB 12 12:25

c.c. CHR, Band Office

c.c. Mr. John Spencer, Prince George

c.c. District Engineer, Prince George

c.c. CHN, Fort St. James

c.c. Mr. Ron Green, P. Eng., Vancouver

NAK'AZDLI
11-22-24 1990

DON L. KIMBERLEY, PWA

Met John Antoine, VMP, Peter Prince, Ted Lockwood, Stanley & Associates, Chief L. Thomas. We discussed various Band problems and their sewer, water systems under construction, at this meeting I found John Antoine had some frozen hydrants.

Inspected 7 homes that are subject to sewer back up, during power failure, these are located on Fort Street. This is a low area, sewer lift station is located in this area.

Originally we had ordered 7 backwater valves but at this time I decided it was too expensive to install at present time. Due to snow and frost, so it was decided to install the following:

1. 1 1/2 and 2" mechanical test plugs, this will stop raw sewage from entering through flow drain. Should a water line or hot water tank break this device can easily be removed to allow drainage;
2. On 3 homes that have laundry tubs we will install 1 1/2 B.W.V. between tub and stack;

I will help John A. install these when they arrive. John and I checked out his fire hydrants, we found 2 frozen. These were thawed out using a tiger torch. We then pumped hydrants stripped them down, repaired main shut-off rubber seal, installed R.V. antifreeze, turned main valve on and checked for leaks. We have one more valve to repair. This hydrant was found last summer with a cracked barrel but unfortunately it did not get repaired. We will repair this as soon as possible.

cc: Don Fyfe
ENG 1(10)



Health and Welfare Canada Santé et Bien-être social Canada

409, 280 Victoria Street
Prince George, BC
V2L 4X3

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E4380-614
TDW

December 4, 1990

8014 '90 DEC 13 10:21 Your file Votre référence

Chief Councillor
Necoslie Band
Box 1329
FORT ST. JAMES, BC
VOJ 1P0

Our file Notre référence

150-5-12 Necoslie

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: November 29, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Community Centre	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

cc: CHR, Band Office
John Spencer, CSTC
District Engineer, INAC, PG
CHN, Fort St. James

Mr. Ron Green

Canada

J. Band
Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
A0429738_75-000208 & Environmental Health Services

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District
CHN



Health and Welfare
Canada

Santé et Bien-être social
Canada

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E4380-614
R. Green

Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

Our file Notre référence

September 12, 1994

150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 1st September, 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Log House, south of Pumphouse Williams Prairie/Nakazdli	0	0	0

The above samples were satisfactory for bacteria, unless otherwise noted below.

REMARKS

The analyses were carried out by membrane filtration in accordance with the latest procedures outlined by the A.P.H.A. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District Engineer

Canada



Health and Welfare
Canada

Santé et Bien-être social
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Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

Our file Notre référence

June 27, 1994

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

7150-5-12

7104

94

JUN

-5

11

39

WATER BACTERIOLOGY REPORT

DATE COLLECTED: 22nd June 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Reserve Ft.St.James Well Supply	0	2	0
Leonard Thomas home Williams Prairie/Nak'azd'li	0	0	0
Binche Community, well	0	2	0

The above samples were satisfactory for bacteria, unless otherwise noted below.

REMARKS

The analyses were carried out by membrane filtration in accordance with the latest procedures outlined by the A.P.H.A. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

Canada

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District
CHN



Occupational & Environmental Health Services
North East District
#509, 280 Victoria Street
Prince George, BC
V2L 4X3

05221 MAY 31 P2:15

Your file Votre référence

Our file Notre référence

May 30, 1994

150-5-12

Chief Councillor
Nak'azd'li Band
Box 1329
Fort St. James, BC
V0J 1P0

PA
4384-614

WATER BACTERIOLOGY REPORT

DATE COLLECTED: May 26th 1994

<u>Sample Location - Source</u>	<u>General Bacterial Population</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
Nak'azd'li Clinic Community Well	0	0	0
Nak'azd'li-Williams Prairie Well	23	0	0

The above samples were satisfactory for bacteria.

REMARKS

The analyses were carried out by membrane filtration in accordance with the latest procedures outlined by the A.P.H.A. Canadian Guidelines state that no samples are to contain fecal coliform organisms due to the serious public health threat. In terms of total coliforms, no samples should contain more than 10 organisms per 100 ml, however, no consecutive samples from the same site should contain coliforms. The general bacterial population should also not be excessive.

If you have any questions, please contact your Environmental Health Officer at 561-5379.

Paul Broda

Paul Broda, B.Sc., C.P.H.I. (C)
Environmental Health Officer

cc. CHR
CSTC
INAC, District

Canada



Province of
British Columbia

MINISTRY OF
ENVIRONMENT,
LANDS AND PARKS

BC
Environment

Rel. 100-100-100-100
to 100-100-100-100
Commissariat de l'environnement
Lol sur l'accès à
l'information
Environmental Protection
1011 Fourth Avenue
Prince George, British Columbia
V2L 3H9
Telephone: (804) 565-8400
Fax: (804) 565-8629

E4380-614
EP3

August 17, 1993

File: PE-0239
PR-4081

Nak'Azdli Band Council
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Chief Leonard Thomas

SUBJECT: Village of Ft. St. James Sewage Lagoons on Nak'azdli IR 1

Thank you for your letter of June 24, 1993 concerning impact on the Necoslie River from the Ft. St. James effluent treatment works and refuse sites. Linda Vandenberg has also been very helpful in clarifying specific issues, and the following is intended to address all communications to date.

Since both of these discharges are the subject of provincial Waste Management Act permits, the issue has been reviewed by regional Environmental Protection and Fisheries staff. We have also had very productive discussions with Brian Olding, Senior Environmental Planner with Indian and Northern Affairs Canada and have received a copy of his August 12, 1993 correspondence to you regarding the scheduled late September visit to your reserves from Envirochem Consultants.

As to the active refuse site, although maintenance in the form of covering and cleanup of scatter has been an on-going concern, we recognize that recent improvements have been made since a full time attendant has been put in place. A major cleanup of the scatter around the site has been proposed by the Regional District of Bulkley-Nechako for this summer, and we will be monitoring the effectiveness of that initiative.

An in-depth sampling program carried out on the Necoslie back channel next to both refuse sites as of 1986 showed the site to have no measurable effect on the Necoslie River. Although the refuse site is very close to this back channel, the tight clay soils appear to be restricting leachate discharge to the river. We recognize that it has been a number of years since this assessment was carried out, and are considering the means of completing a follow-up survey on this section of the river.

1663
AUG 30 13:59

We also recognize that this is not a preferred location for a refuse site and have been working with the Regional District to select a new site and have the existing site properly cleaned up and decommissioned.

With respect to the operation of the village effluent treatment works, the series of lagoons followed by chlorination and dechlorination provides an effluent quality that complies with the permit requirements. After the effluent receives this treatment, it is discharged through an underwater line into the Necoslie River. The only upset conditions that on occasion may approach permit exceedances occur when the ice comes off the lagoons in the spring. The larger concern is the ability of the Necoslie River to adequately dilute the discharges, which is a matter our Ministry intends to address as resources and municipal planning initiatives permit.

An ongoing water sampling program has been in place on the Necoslie River since 1987 and the results indicate a mean faecal coliform count of 11.4/100 mL with a maximum of 110/100 mL. These are below public health criteria for swimming and agricultural use. However, there is some indication of high nitrite and ammonia levels during low flows in the Necoslie which may increase algae and weed growth and are of concern in view of potential fisheries impact. It has been noted through sampling that some contribution to the high coliform counts and nitrogen levels originates from areas above the village discharge, possibly the agricultural operations upstream.

Although our fisheries inventory and data is less than optimum for this area, organic refuse can generally be expected to be neutral or actually beneficial to fish populations as a result of increasing the productivity of the waterway, and sewage in the current amount is unlikely to have any human consumptive health consequences. Any leachate from the garbage disposal sites would be a different matter however, and we would welcome any information on unusual fishery impacts in the area.

In regard to raw sewage appearing on the banks of the Necoslie, we have no record of the lagoons overflowing, even in periods of high water and rainfall. Ministry staff inspect these lagoons on a regular basis and have not noted any concerns of this nature and review of our records provides no indication of an overflow occurring since the lagoons were constructed. However, as this is a potentially serious matter, we would appreciate any further details on the occurrences to which you have referred.

With respect to enforcement of provincial standards, we recognize the limitations of self-monitoring generally, but lack the staff and fiscal resources to do more. In that regard, any timely and detailed information you can provide on immediate concerns to the local Conservation Officers in Vanderhoof will be investigated as soon as possible.

The matter of possible trespass of the refuse sites on reserve land is not a matter which BC Environment can address, and we recommend Indian and Northern Affairs Canada as the appropriate agency to consider those concerns.

s.19(1)

In summary, the tests we have carried out over several years show no cause for concern from the refuse sites, and limited impact from sewage discharges. However, we appreciate the very real concerns that Band members may have, and given the technical and jurisdictional complexities of these issues, I would recommend further discussions with the Village of Fort St. James, the Regional District of Bulkley - Nechako, the appropriate federal authorities, the Nak'Azdli Band and our staff. Given the shared concerns and a number of provincial planning initiatives, we would be pleased to provide every possible assistance if that is your wish.

I regret that staff vacancies and the current fiscal climate have precluded the level of response I would have liked to provide. However, the annual water quality sampling regime is scheduled to commence later in the current month and will involve weekly sampling for 30 days at the Necoslie and Stewart River bridges to measure bacterial, sediment and nitrogen levels. We would be pleased to expand this program to include winter sampling and/or increased coverage or parameters, but are limited by staffing and fiscal situations. We will undertake to make the results of this sampling program available to your offices and I have enclosed copies of the most recent sampling reports referred to above for your information and review. If you have any questions in that regard, we invite you to contact my office (565-6400) or Bruce Carmichael in Environmental Protection (565-6455).

Thank you for bringing your concerns to our attention, and we look forward to assisting in resolving any that remain outstanding.

Yours truly,



Richard Krehbiel
Regional Director
Northern Interior Region

cc: Regional District of Bulkley - Nechako
Attention: Mr. Rick Hunter

Village of Fort St. James
Attention: Mr. Lars Sabbe

Department of Indian and Northern Affairs
Attention: Mr. B. Olding

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to Information Act*
*Communiqué en vertu de la
Loi sur l'accès à
l'information*

Hon. John Cashore, Minister
Environment, Lands and Parks (MO 61066)

Linda Vandenberg
1209 Quadra, Victoria, V8W 2K6

Rich Girard, Regional Manager
Environmental Protection



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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Communiqué en vertu de la
Loi sur l'accès à
l'information

Your file Votre référence

November 30th, 1990.

Our file Notre référence

E4380-614

Director,
Band Support & Capital Management, ^{6638 100} DND-3 14:53
British Columbia Region,
Vancouver, B.C.

Attention: Robert Hall,
Regional Facilities Maintenance Officer.

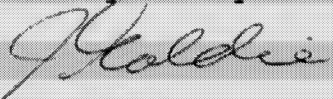
Re: Williams Prairie Meadow - Interim Pumping of
Community Septic System - \$19,500.00.

Attached is a copy of the request from the Nak'Azdli Band regarding
the above.

As discussed, Region will consider providing O & M funds towards this
expense should monies become available in this fiscal year or in the
upcoming 1991/92 fiscal year, subject to budget availability.

In the meantime, we are advising the Band to tender out the work to
obtain the lowest price, and charge this expense to the capital
project.

Thank you for your assistance in this matter.


JEFF GOLDIE,
DISTRICT MANAGER,
PRINCE GEORGE FIELD OFFICE,
PRINCE GEORGE, B.C.

Att.

cc. Bill Guerin, A/Head, B.S.C.M.

Warren Reade,
A/Community Facilities Officer.

Canada

A0429738_85-000218



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NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
Telephone 996-7171

November 13, 1990

Indian & Northern Affairs Canada
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

Attention: Mr. Bill Guerin
Head of Band Support Capital Management

We hereby request approval of the proposal to arrange a Municipal Agreement of the Pump Out of six septic tanks of the Williams Prairie Meadow necessary due to the cancellation of the sewage portion of the Williams Priarie Meadow Works.

This Municipal Agreement will cost an estimate of \$650.00 per week commencing the end of November 1990 and will run through until July 1991 assuming the sewage project will proceed in 1991-1992. Otherwise, we will be seeking an annual agreement should the sewage works be delayed.

Our Band is seeking a commitment of at least \$650.00 per week at thirty (30) weeks which is \$19,500.00 to July 01, 1991.

The Band is reviewing the option of tendering the works.

Sincerely,

NAK'AZDLI BAND COUNCIL


PETER PRINCE
Senior Manager

PP:lam

c.c. John Spencer, Capital Engineer, Carrier Sekani Tribal
Council
T.K. Thien, Indian & Northern Affairs, Regional Office

*Band will go out
for tender on the
work to get the lowest
prices*

TCI
90-9-17



Health and Welfare Canada
Santé et Bien-être social Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

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E4380-614
TDW

Chief Councillor
Necoslie Band
Box 1329
FORT ST. JAMES, BC
VOJ 1P0

Your file Votre référence

September 28, 1990
Our file Notre référence

150-5-12 Necoslie

9014 '90 OCT 11 10:17

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: September 12, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Necoslie	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

cc: Helen Antoine, CHR, Band Office
John Spencer, CSTC
District Engineer, PG
CHN, Fort St. James
Ron Green, INAC, VAN

Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Health and Welfare
Canada

Santé et Bien-être social
Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

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T. V. Thien

E4380-614
TCI

95575 OCT -4 P228

Chief Councillor
Necoslie Band
Box 1329
FORT ST. JAMES, BC
VOJ 1P0

Your file Votre référence
September 28, 1990
Our file Notre référence
150-5-12 Necoslie

8691-90 OCT-9 13:16

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: September 12, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Necoslie	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS:

METHOD OF TESTING


The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

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If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

cc: Helen Antoine, CHR, Band Office
John Spencer, CSTC
District Engineer, PG
CHN, Fort St. James
Ron Green, INAC, VAN


Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada



Health and Welfare
Canada

Santé et Bien-être social
Canada

#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Chief Councillor
Necoslie Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

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l'information

Your file Votre référence

Our file Notre référence

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: 10/05/90

	<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1.	Necoslie	Satisfactory	0	0
2.				
3.				
4.				
5.				
6.				

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

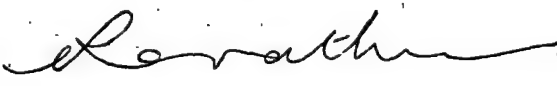
Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

c.c. CHR BAND Office
CSTC, Prince George
CHN Fort St. James

~~P.N.A.C. Vancouver~~

Canada


Ron Watkins, B.A. C.P.H.I. (C)
Environmental Health Officer
North East District

& Environmental Health Services
A0429738_89-000222



Released under the Access to Information Act
E4360-614
TC1
Stanley Associates Engineering Ltd.
Suite 100 - 1360 5th Avenue
Prince George, British Columbia V2L 3L4
Telephone (604) 562-8261

September 6, 1990

File: 90-461-01-01

5424 '90 SEP 17 11:05

Nak'azdli Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Mr. Peter Prince, Band Manager

Dear Sir:

Reference: Williams Prairie Meadow Project

In the soils report prepared by Hardy BBT Ltd. for the Williams Prairie Meadow project, the soil conditions are described as a stiff layer of clay overlying a stiff to very stiff layer of clay till with occasional cobbles up to 2.2 metres in diameter. Keep this in mind as you discuss equipment selection with your project superintendent.

The present water system design provides for two self draining standpipes. The present pumps are capable of providing about 60 gallons per minute to the standpipes for flushing the water line and sewer system or guarding small controlled burning situations. Fire hydrants can be added to the system in the future when the reservoir and pumphouse are upgraded to provide fire flow capabilities.

SAEL is presently preparing tender documents for the wellhouse and well construction. We recommend a public tender and propose to run the advertisement September 14, 1990 in the Vanderhoof and



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A0429738_90-000223

s.19(1)

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l'information

Prince George Newspapers. We propose to receive the completed tenders in our Prince George office on September 27, 1990. The work is anticipated to begin in early October.

If you wish to discuss this or any other issue in more detail, please contact me at our Prince George office.

Yours Truly,

STANLEY ASSOCIATES ENGINEERING LTD.

Eric L. Wiens, P. Eng.
Project Manager

ELW/ljw

P.C. John Spencer, CSTC
T.K. Thien, INAC

s.19(1)



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E4380-614
TCI
Stanley Associates Engineering Ltd.
Suite 100 - 1360 5th Avenue
Prince George, British Columbia V2L 3L4
Telephone (604) 562-8351

September 5, 1990
File: 90-461-01-01

Nak'azdli Band
Box 1329
Fort St. James, B.C.
V0J 1P0

5439 30 87 17 11:07

Attention: Mr. Peter Prince, Band Manager

Dear Sir:

Reference: Williams Prairie Meadow Permits

Enclosed are copies of the permits / approvals from Health and Welfare Canada, Northern Interior Health Unit and the Ministry of Environment and Parks.

If you have any questions, please contact me.

Yours Truly,
STANLEY ASSOCIATES ENGINEERING LTD.

Eric L. Wiens, P. Eng.
Project Manager

ELW/ljw

Encl.

P.C. John Spencer, CSTC
T.K. Thein, INAC



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Public Service Health
#409 - 280 Victoria Street
Prince George, BC
V2L 4X3

Your file Votre référence

Our file Notre référence

150-5-4 Necoslie

August 24, 1990

Mr. Eric Weins, P. Eng.
Stanley Associates Engineering Ltd.
Suite 100 - 1360 - 5 Avenue
Prince George, B.C.
V2L 3L4

Dear Sir:

RE: PROPOSED PUBLIC WORKS - NAK'AZ DLI - WILLIAMS PRAIRIE
MEADOWS

This will acknowledge receipt of pertinent documents related to the above mentioned proposal. We have conferred with Ministry of Environment, B.C. Waste Management Officials who confirm that the authorities responsible for approval are:

1. Ministry of Health
2. Ministry of Environment

By the way of comment only, we would counsel furrow irrigation rather than spray irrigation.

Once again thank you for this opportunity to review the proposal.

Yours truly,

Paul Broda

Paul Broda
Environmental Health Officer
North East District
Occupational & Environmental
Health Services

Canada

**Pages 227 to / à 251
are withheld pursuant to section
sont retenues en vertu de l'article**

20(1)(b)

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Vancouver, B.C. V6G 3C5
Tel: (604) 666-5148
Fax: (604) 666-5159

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Date: Aug 13/90

No. of Pages: 3 (Incl. cover)

FACSIMILE

TO: Mr Theresa Nelson

Phone: _____

A/ Head of B.S & CH
Bruce Gerges

Fax: _____

FROM: T. K. Thien

Phone: _____

DIAND Technical Services - Pacific Region

SUBJECT: Nicostic - 1990/91 Capital Projects

Per our conversation, enclosed please
find suggested draft response to
the Band for their July 30, 1990
letter.

Please phone me if you require
clarification.

Canada

Chief and Council
Nak'Azdli Band
P.O. Box 1329
Fort St James, B.C.
V0J 1P0.

~~Atte.~~

Dear Chief and Council.

RE: Necostli Band. Water and Sewer Projects

This is in response to your letter dated
July 30, 1990.

The enclosed Project Brief and Management
Regime for the 1990/91 Capital Infrastructure
Program had been reviewed by [REDACTED]
DIAND Technical Services and upon his
recommendation, I am pleased to inform
you that they meet my approval.

I am advised by [REDACTED] that
because the proposed sewage lagoon for
the Williams Prairie Meadow is located off
reserve and on Provincial Crown Land, the
Band must obtain approval/permit from
the appropriate Provincial Approval Agencies
before proceeding with the construction of
the sewerage. It is my understanding
that your consultant Stanley Associates
has taken the necessary ^{steps} to obtain such
approval/permit.

As time is of the essence, and the
Band wishes to proceed with the construction
as soon as possible, I would confirm

that \$350,000 in regular Capital and \$216,000 in Bill C.31 funds are committed under the current 1990/91 fiscal year for the Band to implement the works outlined in your Project Brief. You may proceed with the construction of the Williams Prairie Meadows Sub-division upon obtaining all the necessary approval and permits from the appropriate approval agencies.

Yours truly,

Theresa Nelson

Head of B.S & C.M



Health and Welfare Santé et Bien-être social
Canada Canada
#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Chief Councillor
Necoslie Band
Box 1329
VOJ 1P0

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1298 90 JUL 14 12:51

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150 - 5 - 12

Our file Notre référence

July 13, 1990

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: 05 - 07 90

Sample Source - Location

Results

Total
Coliform

Fecal
Coliform

1. Health Centre

Satisfactory

2

0

2.

3.

4.

5.

6.

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

cc-CHR c/o Band Office
-John Spencer, CSTC, Pr George
-District Engineer, INAC, PR George
-CHN, Ft.St.James H/C
-Ron Green, INAC, Vancouver

Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada

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Health and Welfare Canada
Santé et Bien-être social Canada
#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Chief Councillor
Necoslle Band
Box 1329
VOJ 1P0

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93039

AUG 13 AM 52

Your file Votre référence
14508-59-12
Our file Notre référence
JUL 13, 1990

COPY

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: 07 - 07 - 1990

Sample Source - Location

Results

Total Coliform

Fecal Coliform

1. Health Centre

Satisfactory

2

0

2.

3.

4.

5.

6.

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

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If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

cc-CHR c/o Band Office
-John Spencer, CSTC, Pr George
-District Engineer, INAC, PR George
-CHN, Ft. St. James H/C
-Ron Green, INAC, Vancouver

Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

Canada

A0429738_124-000257



NAK'AZDLI BAND COUNCIL

P.O. Box 1022, Fort St. James, B.C. V0J 1S0
Telephone 996-7171

File: ENG 2.9(3)

July 30, 1990

Theresa Nelson
Indian & Northern Affairs
#209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

T-K. THIEN
INAC
VANCOUVER.

Dear Ms. Nelson:

Re: Necoslie Band - Water and Sewer Projects - Transmittal

Please find enclosed an updated Project Brief and Management Regime for your approval. At this time I would like to inform you that we wish to commence construction August 20th and need your approval for funding to engage personnel and contractors. Council awaits your go ahead and requests your response by August 8th.

Thank you.

Sincerely,

NAK'AZDLI BAND COUNCIL

[Signature]
for Peter Prince
Senior Manager

cc: Project Team

PP:lm

**PROJECT BRIEF AND MANAGEMENT REGIME
FOR 1990-91 CAPITAL INFRASTRUCTURE PROGRAM**

NAME: Nak'azdli Band, Water and Sewer Subdivision 1990
Improvements:

- Projects:**
1. Williams Prairie Subdivision core Services (14 lots)
 2. Minor water and sewer works
 3. 42 Lot Subdivision, Phase Two Completion (up to 14 lots)

SCOPE OF WORK:

1. To provide for the first time at the Williams Prairie Subdivision, proper piped water and sewer services and road works for a maximum of 14 lots. This work entails providing core municipal services including a water reservoir and distribution system along with piped sewage collection and a sewage disposal lagoon. This project will be funded from the regular capital funds supplemented by Bill C-31 funding.

The new water well source developed for the piped water system can meet the needs of all the 14 homes within the confined boundaries of the community. The new water system will eliminate the health and safety concerns raised by Health and Welfare Canada. Future minor improvements to the water reservoir and the installation of the fire hydrants will be implemented when the community grows to provide fire protection.

2. Minor water and sewer works include urgent health and safety improvements to the Necoslie Bands present system. A sewage backflow preventer manhole at the village's lift station to protect the lower phase I portion of the Necoslie community is the primary focus of this project. This will be funded from regular capital funds.
3. The remaining Bill C-31 funding will be utilized to develop lots and services in the partially completed Necoslie, Phase Two subdivision.

Utilizing Urban Systems Engineering design of this phase, the Band will start by developing along Road No. 1 which is the sole outstanding roadway left in the Phase II works. The Band's budget will limit them to completing only the first 285 metres of the total length of 750 metres of outstanding Road No. 1 works. The surveyed lots shown on Urban's Engineering drawing as lots no., 1 and no.'s 40 to 35 will be developed. Four lots opposite lots 35 to 38 will be developed between future roadways no.'s 7 and 8. The two

lots shown as no.'s 164 and 205 will be serviced. An option to reorient the old lot 205 to configure with the layout of the new Road No. 1 such that two lots could be developed in its place will be pursued. The resurvey of lot 205 to form two new lots is anticipated bringing the total number of new serviced lots to number fourteen (14).

PROJECT SUBSTANTIATION:

1. Williams Prairie

A proper sewage system is required to replace the septic field system that has saturated the area threatening to contaminate their well water system. A new evaporative sewage lagoon will ensure the neighbouring creek which flows through Fort St. James is not polluted.

2. The minor works contemplated are urgent health and safety concerns. Numerous accounts of homes basements being flooded by city sewage have been filed.

3. Completion of a portion of the Phase II subdivision will provide the community with desirable lots and proper water and sewer service systems.

PROJECT TEAM:

The following project team will be implemented for the 1990-91 Capital Infrastructure and Bill C-31 Program:

Project Payment Authority - Chief and Council.

1. Senior Administrator - Peter B. Prince, Senior Band Manager.
2. Band Project Manager - Ron Sam.
3. Project Consultant - Stanley & Associates Engineering Ltd., Eric Wiens.
4. Construction Superintendent - (not identified).
5. Band Project Advisor - John Spencer, CSTC Capital Engineer.
6. Project Advisor, Engineering - T.K. Thein, INAC.

PROPOSED METHODOLOGY:

Contract A - Stanley and Associates Engineering Ltd. services to be provided include:

The Williams Prairie Subdivision

1. The preparation of contract tender documents for the Williams Prairie Subdivision with the provision to service in total 14 lots including the six (6) residences found there. Contract tender documents will include updated estimates, drawings and technical specifications.
2. Review of encumbrance and obtaining of "Permits to Occupy" from the provincial government.
3. Tender period assistance.
4. General Engineering Support during construction, including full time site supervision and inspection services.
5. Post-construction services including as-built drawings, training, CAIS reports (optional), and O&M Manuals.
6. Post-construction services including estimating Phase Two Fire Protection (Williams Prairie Meadow).

Nak'azdli Subdivision - Phase Two

1. The updating of both Band as-built drawings and the overall technical specifications prepared by others at the initial stage of Phase Two.
2. Preparation of tender documents (optional), budgets and estimates for this Band managed project.
3. Review of encumbrances.
4. Tender period assistance (optional).
5. General engineering support during construction.
6. Construction inspection and certification.
7. Post-construction services including CAIS reports (optional), as-built drawings, and estimating the works to complete Phase Two - Necoslie Subdivisions.

Special Provisions

1. Designing and tendering minor improvements such as the Necoslie backflow preventer manhole.
2. Overlaying as-built information on the aerial mosaic land use drawings for Necoslie IR#1 to be provided at 1:2000 scale. Original drawings to be supplied by INAC - LRT through Don Reynierse, P.G. District. This provision is dependent on the availability of funds and is therefore optional.
3. Directing legal surveys as required to allow the overlaying of as-built information upon the uncontrolled aerial mosaic land use drawings for Necoslie IR#1A known as Williams Prairie Meadows. Original drawings to be provided by INAC - LRT through Don Reynierse, P.G. district, mapping 1:2000 scale. This provision is dependent on the availability of funds and is therefore optional.

Contract B - Construction Superintendent/Manager

Position Requirements to include:

1. Procurement of materials, equipment and Band manpower to conduct these Band-managed water, sewer, and road works improvements in both Williams Prairie and Fort St. James subdivisions. Provision of overall estimates, budgets and schedules as well as the assumption of overall cost accountability to the Band.
2. General engineering requirements (i.e. surveying, etc.) during construction. (optional)
3. Reporting to the Band's Project Manager, taking direction from the Chief and Council and Project Consultant, through the Project Manager.
4. Acting upon technical advice from the Bands Consulting Engineer channelled to the Superintendent via the Project Manager.
5. Coordinating Band managed works with sub-contractors. Coordinating Band crews simultaneously on multiple sites. Maximizing Band equipment and labour involvement, facilitating on the job training.

**Contract C - Wellhead/Reservoir Mechanical and Electrical
Systems, Williams Prairie**

Contract Items to include:

1. The provision and installation of the wellhead submersible pump, disinfection (optional), mechanical system, heating, power and controls.
2. Control systems telemetering, provision (cable installation by Band), hookup and testing.
3. Other minor electrical and mechanical works.
4. Provision of backup maintenance parts, materials and tools (as required).
5. Submission of specified numbers of copies for the appropriate section of the Williams Prairie Subdivision O&M Manual prior to substantial completion certificate. Take direction from the Consulting Engineers assembling the O&M Manuals.
6. Provide post-construction services including both system training and O&M Manual reviews with Band personnel as directed by the consulting Engineer.

Contract D - Legal Surveys

Contract Items to include:

1. Conduct proper site and subdivision surveys to be registered as proper plans.
2. Conduct legal surveys as required to coordinate the Williams Prairie aerial photo overlay mapping as required.
3. Re-survey portions of the Williams Prairie subdivision to adjust lot layouts and road alignments as required by the Project Consultant.

Contract E - Sewage Lift Station

Contract Items to include:

1. FLYGT Sewage Lift Station predesigned and delivered for Band installation.

Capital Requirements: (thousands)

Funding: (thousands)

Funding Source	Williams Prairie	Necoslie Minor Works	Necoslie Subdivision	Total Funding
Reg. Capital	346	4	0	350
Bill C-31	92	0	124	216
Project Funding Totals	438	4	124	566
Capital Shortfall: (thousands)				
Budget est.	450	4	139	593
Funding	438	4	124	566
Shortfall	12	0	15	27

Note:

1. The size of the third cell in the sewage facility at Williams Prairie can be reduced temporarily given the present number of foreseeable residences. This minor change will bring the project on budget and may be completed by the Band regardless dependent on actual construction costs found as the project evolves.
2. The variance in the Necoslie subdivision project can be accommodated by deleting the driveways temporarily and will be reimplemented by the Band dependent on actual construction costs found as the project evolves.
3. Special mapping requests of Don Reynierse - LRT will be accommodated only if the Band deems it necessary or if additional funding is found.

Capital Encumbrance/Environmental Assessment

The Consultant is to obtain a Permit to Occupy from the B.C. Provincial Government for the Williams Prairie Subdivision. The Consultant will review with INAC encumbrance checks on both Williams Prairie subdivision and the ongoing Necoslie Subdivision - Phase Two and assist with the preparation of the required Environmental Assessments for these projects.

PROPOSED SCHEDULE:

1. Engage Consulting Engineers - June 1990
2. Prepare Williams Prairie Subdivision estimates and tender documents - June 1990
3. Update the Necoslie Subdivision Phase Two documents and estimates - July 1990
4. Obtain funding approval from INAC - July 27
5. Preorder Flygt sewage lift-station - July 30
6. Engage Construction Superintendent - August 6
7. Order materials, start - August 6
8. Ron Green to complete INAC review - August 10
9. Earliest date to receive INAC funding - August 17
10. Engage Construction Superintendent full time - August 20/27
11. Start Construction - August 27/September 04
12. Project start up meeting No. 1 - August 20/27
13. Project meetings every two weeks.
14. Final inspection - November 07

CERTIFICATION:

The Consulting Engineer is to ensure all code requirements are met for the overall water system and sewage disposal, and is to carry out field inspection work as required. The as-built drawings are to be stamped with the Professional Engineering seals of the Consultants Engineers.

REPORTING:

The Band's Consulting Engineer will provide; sets of contract documents, monthly progress reports, as-built drawings and O&M Manuals to the Band for distribution by the Band, as follows:

1. Chief and Council:

2 sets of: contract documents and drawings
monthly progress reports
as-built drawings
O&M Manuals

1 set of: legal plans and as-built aerial overlay land
use prints

2. Carrier Sekani Tribal Council:

1 set of: contract documents

2 sets of: contract drawings
monthly progress reports
as-built construction drawings (one
reproducible)

1 set of: legal plans and as-built overlay land use
prints

1 set of: O&M Manuals

3. INAC District:

1 set of: contract documents
contract drawings
bi-monthly progress reports

2 sets of: as-built drawings (both reproducible)
O&M Manuals

1 set of: reproducible legal drawings (1:2000)
reproducible as-built aerial overlay land use
drawings (1:2000)

DISTRIBUTION LIST: As per Project Team listing.

Revised: July 29, 1990

File: Capital - Nak'azdli Band

File: _____

Disc: _____



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Canada

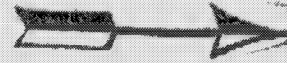
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August 3 1990



E4380-614

MEMORANDUM TO: T.K. Thien, P. Eng.
Area Project Engineer
DIAND Technical Services
Public Works Canada
B.C. Region

FROM : Phil Wong
Pollution Control Engineer
DIAND Technical Services
Public Works Canada
B.C. Region

SUBJECT : **SUBDIVISION**
WILLIAMS PRAIRIE MEADOW I.R. #1A
NAK'AZDLI BAND

As you had requested, the following are my review comments on the wastewater aspects of the drawings prepared by Stanley Associates Engineering Ltd., Job No. 90-461-01-01, Drawing No.'s 1 to 8 plus first drawing with no Drawing No., dated May 1990 to July 1990:

1. General

- .1 Insufficient information has been provided to review the proposed wastewater treatment and disposal systems. A Design Brief and soils report are required. The lagoons appear to be off reserve; has a Waste Management Branch Permit been obtained (including the approval of spray irrigation)?
- .2 The lettering on many of the drawings, particularly on detail drawings, is too small to permit reduction of drawings.
- .3 A legend is required on the drawings.

2. Drawing No. 01

- .1 Is sewage lift station low enough to allow gravity connection of unnumbered lots should adequate water source be found?

.../2

Canada

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- 2 -

3. Drawing No. 02

- .1 Detail of air release assembly required.
- .2 Sections through lagoons required. Are lagoon berms to be constructed on native materials? Any lagoon liner required?
- .3 As noted in Item 1.1, Design Brief required with rationale for lagoon siting, sizing and configuration, interconnections between lagoons, emergency spray irrigation, etc.
- .4 Has Crown Lands lease or purchase of lagoon area and access road been completed?
- .5 Are stop logs in manholes going to provide a watertight seal? How are stop logs to be removed or replaced? It will be a dirty job if someone has to climb into manhole to carry out this work.
- .6 Is drain interconnect (with gate valve) necessary between Cells 1 and 2 if removal of stop logs in Manhole C will accomplish the same thing?
- .7 Detail required for erosion protection at the ends of lagoon piping.

3. Drawing No. 05

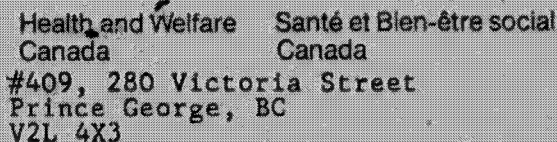
- .1 Insufficient details of sewage lift station provided. Refer to Section 3 of the DIAND Design Guidelines for Wastewater Systems in B.C. Region for requirements. Will not have self-cleansing velocity in 100 mm forcemain at 3.8 L/s.
- .2 Septic tank details required. Why have septic tank pre-treatment for lagoons?

4. Drawing No. 06

- .1 0.6 m. drops into sanitary manholes not acceptable. Refer to Section 2.4.2 of the DIAND Design Guidelines.

Phil Wong

Phil Wong
Pollution Control Engineer



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Chief Councillor
Necoslief Indian Band
Box 1329
Fort St. James, BC
V0J 1P0

11-5-12 Necros lie

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: June 18, 1990

	<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
<u>1.</u>	Health Center Kitchen	Satisfactory	2	0
<u>2.</u>	Health Center Washroom	Unsatisfactory	overgrowth	0
<u>3.</u>	Solomon Prince (June 20/90)	Satisfactory	0	0
<u>4.</u>	Band Office (June 20/90)	Satisfactory	7	0
<u>5.</u>				
<u>6.</u>				

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

Paul Broda

Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

cc-CHR c/o Band Office
-John Spencer, CSTC, Pr George
-District Engineer, INAC, PR George
-CHN, Ft. St. James H/C...

Ron Green, INA, Vancouver

Canada

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Health and Welfare Canada
Santé et Bien-être social Canada
#409, 280 Victoria Street
Prince George, BC
V2L 4X3

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T.K. Thein
E4380-614
TC1

Chief Councillor
Necoslief Indian Band
Box 1329
Fort St. James, BC
VOJ 1P0

91580 61585 05 16 10
150-5-12 Necoslief

COPY

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: June 18, 1990

	<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1.	Health Center Kitchen	Satisfactory	2	0
2.	Health Center Washroom	Unsatisfactory	overgrowth	0
3.	Solomon Prince (June 20/90)	Satisfactory	0	0
4.	Band Office (June 20/90)	Satisfactory	7	0
5.				
6.				

RECOMMENDATIONS:

METHOD OF TESTING

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Paul Broda

Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

cc-CHR c/o Band Office
-John Spencer, CSTC, Pr George
-District Engineer, INAC, PR George
-CHN, Ft. St. James H/C
-Ron Green, INAC, Vancouver

Canada



Health and Welfare Canada
Santé et Bien-être social Canada
#409, 280 Victoria Street
Prince George, BC
V2L 4X3

Chief Councillor
Necoslie Indian Band
Box 1329
Fort St. James, BC
V0J 1P0

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COPY
5859 JUN 1 1990
JUN 2 1990
150-12 Necoslie

WATER BACTERIOLOGY TEST REPORT (Coliform Bacteria)

SAMPLE DATE: May 28, 1990

<u>Sample Source - Location</u>	<u>Results</u>	<u>Total Coliform</u>	<u>Fecal Coliform</u>
1. Necoslie Village Well	Satisfactory	0	0
2.			
3.			
4.			
5.			
6.			

RECOMMENDATIONS:

METHOD OF TESTING

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 16th Edition, 1985, published by the American Public Health Association (Membrane Filter Technique, Millipore Equipment).

REMARKS

Canadian drinking water standards require that total coliform bacteria levels be less than 10 organisms per 100 ml sample and that fecal coliform levels be zero. Total coliforms usually come from soil or vegetation while fecal coliform indicate contamination by animal or human feces (e.g. sewage).

If you have any questions please contact your Environmental Health Officer at 561-5378, Prince George, B.C.

Paul Broda

cc-CHR c/o Band Office
-John Spencer, CSTC, Pr George
-District Engineer, INAC, Pr George
-CHN, Ft. St. James H/c
-Ron Green

Paul Broda, C.P.H.I. (C)
Environmental Health Officer
North East District
Occupational & Environmental Health Services

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Indian and Northern
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Affaires indiennes
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Your file Votre référence

June 20, 1990

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Our file Notre référence

E4380-614

Chief & Council
Necoslie Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Dear Chief & Council:

Re: Water and Sewer Subdivision

Thank you for your Project Brief and Management Regime for the 1990/91 Capital Infrastructure Program.

I have reviewed the Document and on the whole, feel it is well prepared and fairly complete with the below noted exceptions:

1. Require a break-down on the cost estimate prepared by the consultant,
2. Implementation, who is going to do the work, contract or Band labour,
3. T.K. Thien area Engineer Technical Services should be a member of the project team,
4. Eric Wiens is the Band Project Manager and is the Band Consultant, this is a conflict of interest.

I would ask that your Project Brief and Management Regime be amended to reflect these changes and resubmitted as soon as possible to enable us to amend your comprehensive funding arrangement to include Capital.

Should you require further information regarding the above, please contact the undersigned.

Yours truly,

THERESA NELSON
A/Head, Band Support & Capital Management
Prince George Field Office
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

cc: T.K. Thien, Technical Services, B.C. Region

Canada

A0429738_140-000273



Public Works
Canada

Travaux publics
Canada
Pacific Region
Région du Pacifique

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Loi sur l'accès à
l'information

May 1, 1990

E4380-614

Ms. Gina Beddone
A/District Superintendent
Lands, Revenue and Trust
Prince George Field Office

Dear Gina:

RE: WILLIAM PRAIRIE MEADOW
PROPOSED SEWAGE LAGOON

I am writing in connection, on the subject of construction of municipal facility off reserve on Crown land.

The proposed facility in question is located at Williams Prairie Meadow. The Band consultant has recommended facultative and evaporation lagoons as the most appropriate wastewater treatment-disposal system for the community. While the lagoon facility could be located within the reserve land, this would severely limit any future development. For this reason the consultant has recommended that the lagoon facility be constructed off reserve on Crown land abutting the south boundary of the reserve.

In response to my enquiry as to the correct procedure to take, you advised the following:

1. Obtain a license of occupation for 10 years from the Provisional Government. The license can be in the name of the Band or the Department. Once the license is obtained and a legal surveyed plan is prepared, the Department (LRT) can proceed to convert the parcel of land into reserve land, (which is a time consuming process and can take up to 3 years). The construction of municipal facility off-reserve on crown land with occupation permit will not jeopardize INAC Capital funding.
2. Obtain a statutory right of way for the proposed facility.

Acting on your advice, I have told the Band consultant to proceed with the application for a license of occupation for 10 years for the proposed sewage facility.

T.K. Thien,
Area Project Engineer
DIAND Technical Services, PWC
B.C. Region

cc: Theresa Nelson, Prince George District

Canada



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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Loi sur l'accès à
l'information

4380-614
TC1

31660

OCT 29 P2:34

October 25, 1989

Your file Votre référence

Our file Notre référence

4200-614

4300-5-614

Chief and Council
Necoslie Band
Box 1329
Fort St. James, B.C.
V0J 1P0

ATTENTION: LEONARD THOMAS
CHIEF COUNCILLOR

Dear Leonard:

RE: WATER SUPPLY, WILLIAMS PRAIRIE MEADOW

I have received a letter from Eric Weins regarding water contamination at Williams Prairie Meadow. The Dept. of Public Works and INAC staff have reviewed the letter from C.S.T.C. and recommend that the Band pursue negotiations with Stuart Lake Lumber to acquire approval to do pump-testing.

The surplus capital funds (\$13,405) from the 1987-88 pre-design project should be used to pay for the pump-testing which is estimated to cost \$6,000.00.

After approval from Stuart Lake Lumber is obtained, appropriate easements, rights-of-way, water licence, etc. will be required.

Until District receives confirmation from the Band that Stuart Lake Lumber has agreed to the pump-testing providing that there is a sufficient quantity of water available the funds recently allocated by the Chiefs of \$34,000 will then be released.

Yours truly

THERESA NELSON
A/HEAD BAND SUPPORT & CAPITAL MANAGEMENT
PRINCE GEORGE DISTRICT
209 - 280 VICTORIA STREET
PRINCE GEORGE, B.C.
V2L 4X3

cc: T. K. Thien
B.C. Region

Canada

A0429738_142-000275

APR - 7 1989
AVR

DR CA Anderson
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Loi sur l'accès à l'information
E4380-614
RDG-BC
DG

A201344

✓ C.C. ES1
✓ C.C. BmG

Mr. Cornie Froese
Clerk/Treasurer
The Corporation of the Village
of Fort St. James
Drawer 640
FORT ST. JAMES, British Columbia
V0J 1P0

Dear Mr. Froese:

I am replying to your letter of December 13, 1988, addressed to my predecessor, the Honourable Bill McKnight, outlining the current status of the storm sewer project.

Priority construction projects and ongoing upkeep and maintenance commitments are identified in the Necoslie Band's five-year capital plan. Any proposal which would contribute to the Village of Fort St. James' storm sewer project would have to be reviewed and evaluated by the band on the proposal's merits and against those projects currently in the capital plan.

I would recommend that the Village contact the band directly, with a detailed contribution request accompanied by a full set of "as built" drawings showing the opportunities for benefits to the band and its lands.

I trust the above helps to clarify the situation.

Sincerely,

Original signed par
Original signed by
PIERRE H. CADIEUX

Pierre H. Cadieux

Buccino/BSCM/ (604)666-5175
January 26, 1989/cb/A201344
Fotia/Merrifield/Sec./994-7204
February 17, 1989
c.c.: J. Rayner
c.c.: G. Wouters, IS-BSCM
c.c.: RDG, British Columbia
(Y.F.: E4380-614)



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

TEMPORARY FILE SLIP
FICHE TEMPORAIRE DE DOSSIER

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to Information Act

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Loi sur l'accès à
l'information

Date of Document - Date du document
File No. - Dossier

This slip is to be used for passing documents when the main file is charged out. This slip must not be removed from document.
Cette fiche sert à transmettre le document lorsque le dossier principal est sorti. Ne pas détacher cette fiche du document.

E4380-614

Referred to Destinataire	Purpose Objet	Date	Initial Initiales	P.A. Date Date de rangement	B.F. Date Date de rappel	Initial Initiales	Records Inspection Examen du service des archives
BH6	38938	28.12.88	R	29/12/88			R

Main file is charged to - Dossier principal inscrit au nom de

DG

Date

28.12.88

Branch - Direction

Subject - Sujet

Water supply & Sewerage systems - Necoslie Band

Records Office Recall Date
Date de rappel du Bureau des documents

A181039

E4300-614
BM. 6 ✓

CC. D.G.

OCT 26 1988

38938 DEC 28 A7:57

Her Worship Mayor Sandra Kovacs
Drawer 640
FORT ST. JAMES, British Columbia
VOJ 1P0

Dear Mayor Kovacs:

Thank you for your letter of June 7, 1988 concerning the storm sewer project for the Necoslie Band and the Village of Fort St. James.

Each year, bands in British Columbia receive funding to provide for the operation and maintenance of reserve lands, infrastructure and capital assets. Due to previously scheduled works and ongoing maintenance the Necoslie Band could not identify financial resources within its budget to contribute to the project. Aware of the project's importance for the Village, the Band approved construction on the condition that it would have the opportunity to review the design drawings.

Although the project is well under way, the Band has yet to receive a copy of the design documents. The Band has concerns about the location of the discharge, the increased flows and the potential environmental impact to the bay where the Band sets out its fish nets. The potential erosion to the steep river banks on the reserve adjacent to the proposed outlet is also a cause for concern.

While there are some benefits to the Band with respect to the containment of surface runoff, the potential hazards resulting from the discharge of this water pose more significant problems. As the Band was not consulted during the design phase it does not believe it should be requested to assist in the building of a system with such potentially negative side effects for the reserve.

.../2

- 2 -

The department's district engineer has been alerted and is currently preparing an evaluation to determine whether the existing design and the already-constructed discharge can be modified to reduce any potential problems. The Band will subsequently discuss the matter with the Village in an effort to reach a solution.

I trust that these concerns will be amicably resolved.

Yours sincerely,

ORIGINAL SIGNED BY
ORIGINAL SIGNÉ PAR
BILL McKNIGHT

Bill McKnight ..

c.c.: The Honourable Tom McMillan, P.C., M.P.

R. Buccino/BSCM/B.C./6-5175
September 12, 1988
R: Cayer/Dumélie//Exec.Sec./994-7219
October 4, 1988
c.c.: J. Rayner
c.c.: RDG, British Columbia

A201344

PA

Cornie Froese
Clerk/Treasurer
Drawer 640
Fort St. James, B.C.
V0J 1P0

Dear Mr. Froese:


Thank you for your letter of December 13, 1988,
addressed to my predecessor, the Honourable Bill McKnight,
outlining the current status of the storm sewer project.

Necoslie Band has a five year capital plan which
identifies priority construction projects and earmarks
ongoing upkeep and maintenance commitments. Any proposal to
contribute to the Village's storm sewer projects must be
reviewed by the Band and evaluated on its merits against
those projects currently in the capital plan.

May I recommend that the Village of Fort St. James
contact the Necoslie Band directly, with a detailed
contribution request accompanied by a full set of "as built"
drawings showing the opportunities for benefits to the Band
and its lands.

Sincerely,

Pierre H. Cadieux



Owen A. Anderson
Regional Director General

Richard Buccino/BSCM/666-5175
January 26, 1989/cb/A201344
E4380-614

File

Cornie Froese
Clerk/Treasurer
Drawer 640
Fort St. James, B.C.
V0J 1P0

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and its lands.

Sincerely,

Pierre H. Cadieux

Original Signed By
OWEN A. ANDERSON

Owen A. Anderson
Regional Director General

Richard Buccino/BSCM/666-5175
January 26, 1989/cb/A201344
E4380-614

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to Information Act*

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Loi sur l'accès à
l'information*



THE CORPORATION OF

The Village of Fort St. James

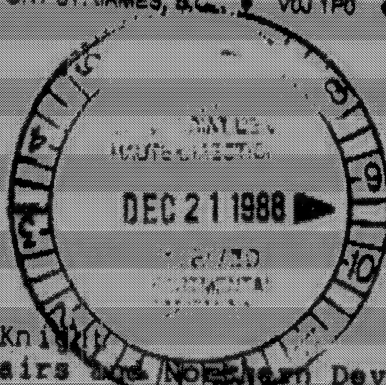
INCORPORATED 1988

DRAWER 640 • FORT ST. JAMES, B.C. • V0J 1P0 • TEL. (804) 908-8233

REF. _____

FILE NO. _____

13 December 1988

150-22
150-27-2

The Honourable Bill McKnight
Minister of Indian Affairs and Northern Development
10 Wellington Street, North Tower, Rm. 2100
Hull, Quebec
K1A 0H3

Dear Sir:

Thank you for your letter dated October 28, 1988. We are surprised that the ministry would contact us with concerns at this late date. The Necoslie Band was contacted in May 1988 and your ministry was contacted in early June, 1988 requesting financial assistance since it would be of benefit to the Village and the Reserve.

enclosed → The potential erosion to the bank of Stuart Lake has been addressed. Please find enclosed a copy of the Engineer's drawing showing placed aggregate at the outfall.

The potential environmental impact to the bay we feel has certainly not increased, the outfall has been located approximately 150 feet further north.

Visually, the Storm Sewer project has improved the area immensely. Physically, the project should provide more safety to the area. The natural water course (previously) ran across and down the south side of Kwah Street. This water course (draining a portion of the village) fills the ditches with approximately 3 to 4 feet of water in spring creating an extremely dangerous situation. This project led for a curb and gutter along Highway 27 which has created a sidewalk separating the foot traffic from vehicular traffic, thereby increasing the pedestrian safety.



The Village of Fort St. James

3/17

Page 2

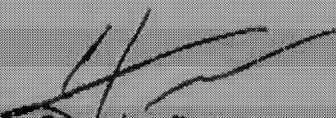
The Honourable Bill McKnight
Minister of Indian Affairs & Northern Development

The firm of K.L.M. Engineering has done the work for us and all appropriate agencies (fisheries, etc.,) have been contacted without any adverse feedback.

In lieu of the above the above the Village of Fort St. James would still appreciate financial assistance.

If we can be of further assistance please do not hesitate to contact us.

Yours very truly,


Connie Froese
Clerk/Treasurer

CF/th

A181039

Her Worship Mayor Sandra Kovacs
Drawer 640
FORT ST. JAMES, British Columbia
VOJ 1P0

Dear Mayor Kovacs:

Thank you for your letter of June 7, 1988 concerning the storm sewer project for the Necoslie Band and the Village of Fort St. James.

Each year, bands in British Columbia receive funding to provide for the operation and maintenance of reserve lands, infrastructure and capital assets. Due to previously scheduled works and ongoing maintenance the Necoslie Band could not identify financial resources within its budget to contribute to the project. Aware of the project's importance for the Village, the Band approved construction on the condition that it would have the opportunity to review the design drawings.

Although the project is well under way, the Band has yet to receive a copy of the design documents. The Band has concerns about the location of the discharge, the increased flows and the potential environmental impact to the bay where the Band sets out its fish nets. The potential erosion to the steep river banks on the reserve adjacent to the proposed outlet is also a cause for concern.

While there are some benefits to the Band with respect to the containment of surface runoff, the potential hazards resulting from the discharge of this water pose more significant problems. As the Band was not consulted during the design phase it does not believe it should be requested to assist in the building of a system with such potentially negative side effects for the reserve.

.../2

5/4

- 2 -

The department's district engineer has been alerted and is currently preparing an evaluation to determine whether the existing design and the already-constructed discharge can be modified to reduce any potential problems. The Band will subsequently discuss the matter with the Village in an effort to reach a solution.

I trust that these concerns will be amicably resolved.

Yours sincerely,

Bill McKnight

c.c.: The Honourable Tom McMillan, P.C., M.P.

R. Buccino/BSCM/B.C./6-5175

September 12, 1988

R: Cayer/Dumélie//Exec.Sec./994-7219

October 4, 1988

c.c.: J. Rayner

c.c.: RDG, British Columbia

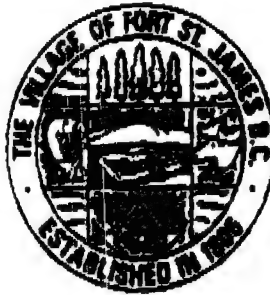
JAN 06 '89 14:23 INDIAN & NORTHERN AFFAIRS

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TELEPHONE 996-8233

OFFICE OF THE MAYOR



DRAWER 840
FORT ST JAMES. B.C.
VOJ 1P0

07 June 1988

The Honourable W. McKnight,
Minister of Indian and Northern Affairs,
10 Wellington Street,
North Tower
Room 2100
Hull, Quebec,
K1A 0H3

Dear Sir:

RE: Kwah Road Paving & Storm Sewer Project

Kwah Street leading from Highway 27 to the Fort St. James National Historic Park and to the Necoslie Reserve is in extreme need of repair.

That section of Kwah Road (approximately 1/4 mile) solely facilitates the Park and the Reserve. The street has a 66' width of which 33' is on the Village side and 33' on the Reserve side. The Village maintains the road 100%.

The Village of Fort St. James is currently involved in a storm sewer, curb and gutter project which will commence at the Park and follows Kwah Road to Highway 27, North on Highway 27 to Stuart Drive and East on Stuart Drive.

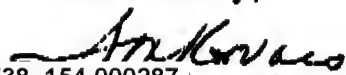
This project along with the paving of Kwah Street would certainly enhance the entrance to the Park and the Reserve, and also assist in the draining of some of the property along the reserve.

Please find enclosed photographs of the area, Engineering Report.

We are seeking financial assistance 1/3 from Department of Indian and Northern Affairs, 1/3 from Environment and Parks and the Village of Fort St. James the other 1/3.

We look forward to a favourable response.

Yours truly,


A0429738_154-000287 ovacs

mayor, Fort St. James

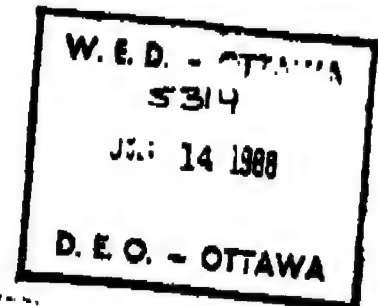


THE CORPORATION OF

The Village of Fort St. James

INCORPORATED 1982

♦ DRAWER 640 ♦ FORT ST. JAMES, B.C. ♦ V0J 1P0 ♦ TEL (604) 996-8233 ♦



July 8, 1988

Department of Indian Affairs
Western Diversification Office
Station "D"
Box #2128
Ottawa, Ontario
K1P 5W3

ATTENTION: KATHY BROWN

Dear Ms. Brown:

Re: Kwah Road Paving & Storm Sewer Project

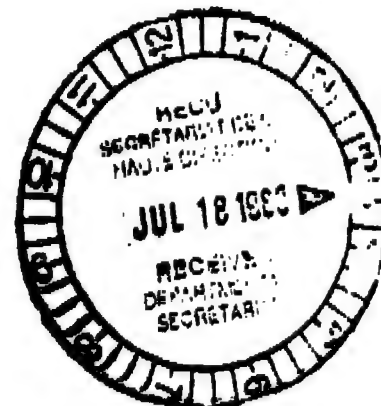
As requested, please find enclosed copies of letters
addressed to the Honourable W. McKnight.

Yours truly,

C. Proese
Clerk/Treasurer

CF:aw

Enclosures



s.19(1)

38950 DEC 28 A7 58

OCT 26 1988

Mr. Lorne McCuish, M.P.
House of Commons
OTTAWA, Ontario
K1A 0A6

Dear Lorne:

Thank you for your letter and enclosure of June 7, 1988 concerning the storm sewer project of the Necoslie Band and the Village of Fort St. James. Her Worship Mayor Sandra Kovacs also wrote to me in this regard.

I have since responded to Mayor Kovacs and am enclosing a copy of my response for your information.

Yours sincerely,

ORIGINAL SIGNED BY
ORIGINAL SIGNÉ PAR
BILL McKNIGHT

Bill McKnight

Encl.

Cayer/Exec.Sec/994-7219
October 4, 1988

C.C.:

c.c.: RDG, British Columbia

Pages 290 to / à 291
are not relevant
sont non pertinentes

ES1
OFFICE OF THE MAYOR



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TELEPHONE 944-1233

DRAWER 640

FORT ST. JAMES, B.C.

VOJ 1PO

07 June 1988

The Honourable W. McKnight,
Minister of Indian and Northern Affairs,
10 Wellington Street,
North Tower
Room 2100
Hull, Quebec,
K1A 0H3

Dear Sir:

RE: Kwah Road Paving & Storm Sewer Project

Kwah Street leading from Highway 27 to the Fort St. James National Historic Park and to the Necoslie Reserve is in extreme need of repair.

That section of Kwah Road (approximately 1/4 mile) solely facilitates the Park and the Reserve. The street has a 66' width of which 33' is on the Village side and 33' on the Reserve side. The Village maintains the road 100%.

The Village of Fort St. James is currently involved in a storm sewer, curb and gutter project which will commence at the Park and follows Kwah Road away 27, North on Highway 27 to Stuart Drive and East on Stuart Drive.

This project along with the paving of Kwah Street would certainly enhance the entrance to the Park and the Reserve, and also assist in the draining of some of the property along the reserve.

Please find enclosed photographs of the area, Engineering Report.

We are seeking financial assistance 1/3 from Department of Indian and Northern Affairs, 1/3 from Environment and Parks and the Village of Fort St. James the other 1/3.

We look forward to a favourable response.

Yours truly,

Sandra Kovacs

Sandra Kovacs

Mayor, Fort St. James

1988 JUN 08 14:03 HQ INDIAN & NORTHERN AFFAIRS

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THE CORPORATION OF

The Village of Fort St. James

INCORPORATED 1952

♦ DRAWER 840 ♦ FORT ST. JAMES, B.C. ♦ V0J 1P0 ♦ TEL (604) 996-8233 ♦

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3/7

15 June 1988

MINISTER'S OFFICE
I.A.A.C.
CABINET DU MINISTRE
A.I.N.C.

The Honourable W. McKnight,
Minister of Indian and Northern Affairs,
10 Wellington Street,
North Tower,
Room 2100,
Hull, Quebec,
K1A 0H3



JUN 20 11 12 AM '88

150-22
150-22-2

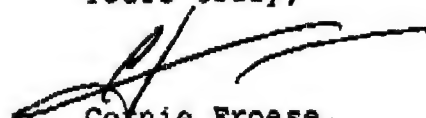
Dear Sir:

RE: Kwah Road Paving & Storm Sewer Project:

With regards to previous correspondence dated
June 07, 1988 from Mayor Sandra Kovacs, please find
enclosed photographs and Engineering Report, which were
inadvertently omitted from the correspondence.

Sorry for any inconvenience this may have
caused.

Yours truly,


Corrie Froese,
Clerk/Treasurer

/kh
Encl:

Visit Historic Fort St. James on the Shore of Stuart Lake
Oldest Established Community in British Columbia, 1806 A.D.
Fort St. James National Historic Park & Murrays Ridge Ski Hill



A181039

P.003

AUG. 02 '88 14:04 HQ INDIAN & NORTHERN AFFAIRS
A0429738_160-000293

**Pages 294 to / à 295
are withheld pursuant to section
sont retenues en vertu de l'article**

20(1)(b)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

Office of the Minister
Responsible for Western Diversification

Cabinet du ministre
responsable de la diversification de l'Ouest

July 5, 1988

Mr. Cornie Froese
Clerk/Treasurer
The Village of Fort St. James
Drawer 640
Fort St. James, British Columbia
V0J 1P0

Dear Mr. Froese:

On behalf of the Honourable Bill McKnight, I wish to
thank you for your letter of June 15, 1988, regarding
the Kwah Road paving and storm sewer project.

Please be assured that your letter will be brought to
the Minister's attention.

Yours sincerely,

Kathryn Brown

Kathryn Brown
Special Assistant

cc J. Rayner.



THE CORPORATION OF

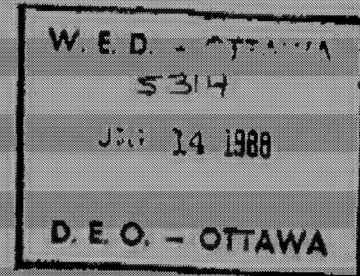
The Village of Fort St. James

INCORPORATED 1952

♦ DRAWER 640 ♦ FORT ST. JAMES, B.C. ♦ V0J 1P0 ♦ TEL. (604) 998-8233 ♦

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Communiqué en vertu de la
Loi sur l'accès à
l'information



July 8, 1988

Department of Indian Affairs
Western Diversification Office
Station "D"
Box #2128
Ottawa, Ontario
K1P 5W3

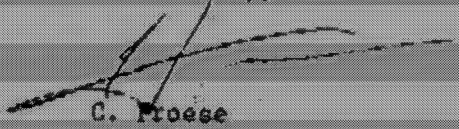
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Re: Kwah Road Paving & Storm Sewer Project

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Clerk/Treasurer

CF:aw

Enclosures



Visit Historic Fort St. James on the Shore of Stuart Lake
Oldest Established Community in British Columbia, 1806 A.D.
Fort St. James National Historic Park & Murrays Ridge Ski Hill



A0429738_164-000297

A181039

Ms. Sandra Kovacs
Mayor, Fort St. James
Drawer 640
Fort St. James, B.C.
VOJ 120

Dear Madam:

I am replying to your letter of June 7, 1988 concerning Necoslie Band and Fort St. James's storm sewer project. Each year, Bands in British Columbia receive funding to provide for the operations and maintenance of reserve lands, infrastructure and capital assets. Due to previously scheduled works and ongoing maintenance, the Necoslie Band could not identify financial resources within their budget to contribute. The Band, being aware of the importance of the project to the village, approved the construction of the project on the condition that the Band reviews the design drawings.

The project is now 60 percent complete and as yet the Band has not received a copy of the design documents. Ultimately the Band has concerns as to the location of the discharge, the increased flows and potential environmental impacts to the bay where they set fish nets. Of concern also is the potential erosion to the steep river banks, on-reserve, adjacent to the proposed outlet.

While there are some benefits to the Band with respect to the containment of surface runoff, the potential hazards resulting from the discharge of this water poses more significant problems.

The Band was not consulted during the design phase and believes it is unreasonable to be requested to help build a system with such potential side effects to the reserve.

. . . /2

RB

- 2 -

The District Engineer has been alerted and is currently preparing an evaluation to determine whether the existing design and already constructed discharge can be modified to reduce the forecast problems. The Band will use this information to enter into a dialogue with the village to resolve the concerns.

Yours sincerely,

Bill McKnight

ORIGINAL SIGNED BY :

[Signature] A.J. GROSS

[Signature] Owen A. Anderson
Regional Director General

SEP 19 1988

R. Buccino/BSCM/6-5175
88/09/12/ens/A181039
E4380-614

s.20(1)(b)

A183380

Mr. Lorne McCuish, M.P.
House of Commons
OTTAWA, Ontario
K1A 0A6

Dear Sir:

I am replying to your letter of June 7, 1988 concerning Necoslie Band and Fort St. James's storm sewer project. Each year, Bands in British Columbia receive funding to provide for the operations and maintenance of reserve lands, infrastructure and capital assets. Due to previously scheduled works and ongoing maintenance, the Necoslie Band could not identify financial resources within their budget to contribute. The Band, being aware of the importance of the project to the village, approved the construction of the project on the condition that the Band reviews the design drawings.

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- 2 -

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Yours sincerely,

Bill McKnight

ORIGINAL SIGNED BY:

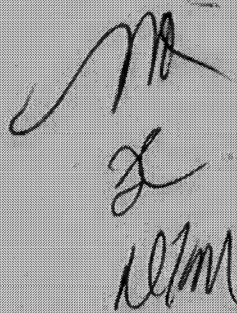
A.J. GROSS

SEP 19 1988

Owen A. Anderson
Regional Director General

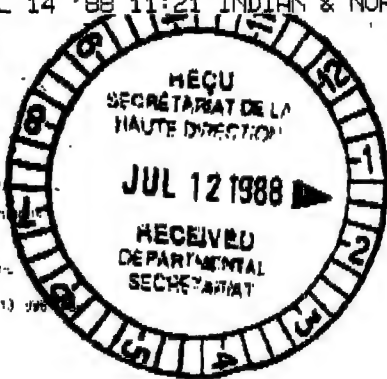
R. Buccino/BSCM/6-5175
88/09/12/ens/A183380
E4380-614

RB/ENS





Page 302
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est non pertinente



Ottawa Office
House of Commons
Room 466
West Block
Ottawa, Ontario
K1A 0A6
Telephone (613) 998-2000



HOUSE OF COMMONS
CANADA

LORNE McCUIISH, M.P.
PRINCE GEORGE-BULKLEY VALLEY

MINISTER'S OFFICE
I.N.A.C.
CABINET DU MINISTRE
A.I.M.C.

JUL 11 11 11 AM '88

RECEIVED

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18 JUL 1988

HOUSE OF COMMONS
CHAMBRE DES COMMUNES

Prince George, B.C.
June 30, 1988.

The Honourable Bill McKnight, P.C., M.P.,
Minister of Indian Affairs and Northern Development,
409 Confederation Building, House of Commons,
OTTAWA, Ontario.
K1A 0A6.

150-25-1
150-27-2

Dear Mr. Minister:

For your easy reference, I am enclosing a copy of correspondence to the Honourable Thomas McMillan from the Village of Fort St. James, B.C. regarding maintenance of Kwah Road.

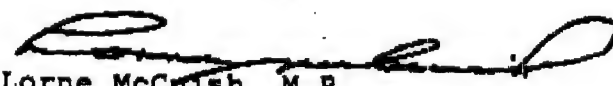
DEX-8C This street is used only as an access to the National Historic Park, and to an Indian Reserve. The Park (Hudson's Bay Fort) receives upwards of 16,000 visitors per year, and there are an estimated 100 motor vehicles on the Indian Reserve. KWAH ROAD IS NOT USED BY THE VILLAGE OF FORT ST. JAMES.

The Mayor and Council have proposed that the Village, the Department of Indian Affairs, and the Department of the Environment share equally in the storm sewer, curb and gutter project presently before them.

Considering the restricted use of the road and the Village's low tax base, I consider their proposal to be most equitable, and I urge you, through your officials, to enter into negotiations with the Department of the Environment and the Village of Fort St. James.

I have today written to the Honourable Thomas McMillan urging like consideration of the proposal.

Yours very truly,


Lorne McCuish, M.P.,
Prince George-Bulkley Valley.

LM:jm

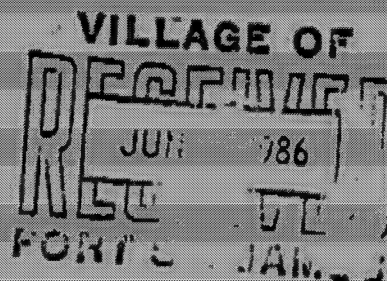
Parks Canada
Parcs CanadaFort St. James National Historic Park
Box 1148
Fort St. James, B.C.
VOJ 1P0

JUL - 9 1986

June 18, 1986

Oui Non Notre référence

Vrai Non Votre référence

Mayor and Council
Village of Fort St. James
Box 640
Fort St. James, B.C.
VOJ 1P0

Dear Mayor and Council,

I write to you about the condition of Kwah Road, the main access Road to Fort St. James National Historic Park. A number of people have expressed concern to me over its' very poor state of repairs. I'm sure you will agree that the experience of dodging pot-holes on Kwah Road is not one that we want the thirteen thousand annual visitors to remember after having travelled hundreds and thousands of miles.

Last year was a busy one for the Park and the Village with over 16,000 visitors at the Park alone. This year promises to be a busy one as well, with the 180th birthday celebrations well underway and visitation at the Park up nine percent during the month of May.

I realize that funds for paving projects are limited as they are for most everything else however, I am concerned and I am sure you share my concerns that we present our visitors with the most positive impression we can and that they don't have to risk damage to their vehicles in order to visit us.

It is for the foregoing reasons that I write you and request that you take whatever actions are required to improve this situation before we become too far advanced in our visitor season.

Your co-operation and assistance in this matter, is, as always, appreciated.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "Wm. A. Silver".

Wm. A. Silver
Area Superintendent
B.C. Mainland North

COPY TO MR L. M. C.

WAS/bks

Pages 305 to / à 306
are not relevant
sont non pertinentes

JUN 27 '88 15:09 INDIAN & NORTHERN AFFAIRS

Released under the Access
to Information Act

Communiqué en vertu de
Loi sur l'accès à
l'information

F.3

2/4 3/5



THE CORPORATION OF

The Village of Fort St. James

INCORPORATED 1962

◆ DRAWER 640 ◆ FORT ST. JAMES, B.C. ◆ V0J 1P0 ◆ TEL. (804) 996-8233 ◆

15 June 1988

MINISTER'S OFFICE
I.N.A.C.
CABINET DU MINISTRE
A.I.N.C.

The Honourable W. McKnight,
Minister of Indian and Northern Affairs,
10 Wellington Street,
North Tower,
Room 2100,
Hull, Quebec,
K1A 0H3



JUN 20 11 12 AM '88

15D-22
15D-22-2


Dear Sir:

RE: Kwah Road Paving & Storm Sewer Project:

With regards to previous correspondence dated
June 07, 1988 from Mayor Sandra Kovacs, please find
enclosed photographs and Engineering Report, which were
inadvertently omitted from the correspondence.

Sorry for any inconvenience this may have
caused.

Yours truly,


Connie Froese,
Clerk/Treasurer

/kh
Encl:

Visit Historic Fort St. James on the Shore of Stuart Lake
Oldest Established Community in British Columbia, 1806 A.D.
Fort St. James National Historic Park & Murray Ridge Ski Hill

A0429738_174-000307



A181039

**Pages 308 to / à 309
are withheld pursuant to section
sont retenues en vertu de l'article**

20(1)(b)

**of the Access to Information Act
de la Loi sur l'accès à l'information**



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

2017

7583 NAK AZDLI Community Sewage Collection & Treatment System System #7583

System	7583 NAK AZDLI Community Sewage Collection & Treatment System System
System Type	#7583 Wastewater
System Sub Type	Partial MTSA
Status	Active
INAC Funded	Yes
Year of Construction	0
Shared System	No
Site	07538 NAK AZDLI
GIS Latitude	
GIS Longitude	

Users Information

Estimated population served by the System(s) (as estimated by the operator)	700
Number of households served by the system	125
Number of community buildings served by the system	12
Number of industrial and commercial users of the system	5

System Classifications

Treatment System Classification	Small System
Regional Treatment System Classification	
Collection System Classification	Small System
Regional Collection System Classification	

System Design

Design capacity of the wastewater system (m ³ /day) (average)	1000
Collection type	Piped
Effluent discharge location	MTSA
Receiving environment	
Level of wastewater treatment	Secondary
Type of wastewater treatment system	Mechanical Treatment
If Mechanical Treatment or Other please specify	Aerated lagoon with continuous discharge to Stuart River

Effluent Receiver

Based on existing studies have any species at risk (as defined by the Species at Risk Act) been documented in the effluent receiving environment?	No
Is the receiving environment officially designated as a sensitive area such as a conservation area habitat preserve or similar protected environment?	No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

Are there any nearby human uses of the effluent receiving environment susceptible to be compromised by the wastewater system effluent (e.g. drinking water intake quality or fishing/shellfish harvesting affected by the wastewater system discharge etc)?

No

Daily Volume (Use all data collected over the past year to determine min max and avg)

Daily volume (m /day) [min]	250
Daily volume (m /day) [max]	500
Daily volume (m ³ /day) (If no flow meter is available please estimate) [avg]	325

Inspection Information

Name	2016 2017 API North 0
Fiscal Year	2016 2017
Actual Date of Field Inspection	2016/10/18
Inspection Completed By	Jouko Kurkiniemi

Deficiencies And Recommendations

General/additional comments from the inspector

For the wastewater system which is being inspected please describe at least one effective activity being undertaken

Outstanding Deficiencies And Recommendations

The following are problems noted by the inspectors and their recommendations to address them

Description	Remarks and Recommendations
-------------	-----------------------------



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

System Risk Score

A system risk score is assigned to every water or wastewater system within your community. Risk values fall into three (3) categories:

High Risk A System Risk score greater than 7. Major deficiencies exist in most of the components. Should a problem arise, the system and processes in place are unlikely to be able to compensate; thus, there is a high probability that any problem could result in unsafe water or properly treated effluent. Issues should be addressed as soon as possible.

Medium Risk A System Risk score greater than 4 and less than or equal to 7. Minor deficiencies exist in several components or major deficiencies exist in one or two components. Should a problem arise, the system and its processes can probably compensate for the problem; thus, there is a medium probability that any problem could result in unsafe water or improperly treated effluent. Issues need to be addressed.

Low Risk A System Risk score less than or equal to 4. Minor or no deficiencies with the system or processes in place. Should a problem occur, it is likely that the system and processes in place will be able to compensate and continue to provide safe water or properly treated effluent while the issue is being resolved.

For each system, an individual risk score has been determined for each of the five (5) risk components (Effluent/Water Source Risk, Design Risk, Operation and Maintenance (O&M) Risk, Record Keeping and Reporting Risk, and Operator Risk) that make up the system risk score.

Effluent Risk (20 / weight)	1
Design Risk (25% weight)	3
Operation and Maintenance (O&M) Risk (25% weight)	3
Record Keeping and Reporting Risk (10% weight)	6
Operator Risk (20% weight)	2
Calculated System Risk	27
Adjusted System Risk	0



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

QUESTIONNAIRE RESPONSES

Risk Responses

Effluent Risk

The Effluent Risk component measures the risk inherent in the receiving water's ability to deal with wastewater effluent as well as the risk associated with the system to produce effluent compliant with applicable regulations. For MTSA systems this component is the risk inherent to the contract in place with the MTSA provider. This includes the quality of the contractual agreement.

- | | | |
|-------|---|------|
| R 1 1 | What is the nature of the receiving environment? (Note that an engineered wetland should be considered part of the treatment system not the receiving environment) | MTSA |
| R 1 2 | Has this facility received a compliance order from Environment Canada (EC) that has not yet been addressed? | No |
| R 1 3 | Comment | |

Design Risk

The System Design Risk component represents risks in how the treatment and collection system was designed and built including the facility equipment treatment process and collection system. It assesses the ability and effectiveness of the treatment process to produce treated wastewater meeting the required effluent quality. For MTSA systems this component represents risks in how the collection system was designed and built (e.g. pump stations collection piping).

- | | | |
|-------------|--|-------------------------------------|
| R 2 1 | There is a base point of 1 to ensure that the lowest possible Design Risk score is 1 | 1 |
| R 2 2 | Based on average values of valid effluent samples does the treated wastewater effluent quality exceeds CBOD $\leq 25\text{mg/L}$ TSS $\leq 25\text{mg/L}$ Total Residual Chlorine $\leq 0.02\text{ mg/L}$ and/or $\text{NH}_3\text{ N} \leq 1.25\text{ mg/L}$ (at 15 C) due to a design issue? | Insufficient Number of Samples |
| R 2 2 notes | If there were exceedences of the above noted parameter(s) identify which of the parameter(s) were exceeded | |
| R 2 3 | To the best of your knowledge and as per your on site observations does the system meet all applicable provincial and federal standards? | Meets Standards |
| R 2 4 | Is the system designed with all appropriate treatment processes for adequately treating the raw wastewater to the necessary effluent quality standard? | Appropriate Treatment(s) |
| R 2 4 notes | If the answer for 2 4 is 2 Inappropriate Treatment(s) please note both the issue(s) and potential remedial solutions | |
| R 2 5 | Are the process wastes (e.g. sludge backwash streams instruments waste streams etc.) properly managed? | Proper Waste Management |
| R 2 6 | Does the collection and treatment system have sufficient capacity at present and to the best of your knowledge for the foreseeable near future (i.e. 5 years)? | Sufficient System Capacity |
| R 2 7 | Are there any reliability concerns associated with the treatment and collection system's equipment? | No Reliability Concerns |
| R 2 8 | In instances where disinfection of the treated effluent is required (e.g. discharge into a surface water body from a mechanical treatment system) does the treatment system include a designed means of disinfection? | Yes |
| R 2 9 | Did you witness any health and safety concerns relating to dangerous workplace practices equipments building conditions or situations during the visit? | No Health and Safety (H&S) Concerns |
| R 2 9 notes | If the answer for 2 9 is 2 or 3 Minor or Significant Health Concerns please note both the issue(s) and potential remedial solutions | |
| R 2 10 | Comment | |



First Nation Treatment Systems - Annual Performance Inspection Results Report

As Of 2017/08/24

Operation and Maintenance (O&M) Risk

The Operation and Maintenance Risk component assesses how the treatment and collection system is being operated and maintained. For MTSAs, this component assesses how the collection system is being operated and maintained. This component is meant to determine whether or not appropriate operation and maintenance procedures are in place and being properly implemented.

R 3 1	There is a base point of 1 to ensure that the lowest possible O&M Risk score is 1	1
R 3 2	Based on average values of valid effluent samples, does the treated wastewater effluent quality exceed CBOD \leq 25mg/L, TSS \leq 25mg/L, Total Residual Chlorine \leq 0.02 mg/L and/or NH ₃ N \leq 1.25 mg/L (at 15 C) due to an operation and maintenance (O&M) issue?	Insufficient Number of Samples
R 3 2 notes	If there were exceedences of the above noted parameter(s), identify which of the parameter(s) were exceeded	
R 3 3	Is there a Maintenance Management Plan (MMP) for the treatment and collection system (as applicable)?	Implemented Site Specific MMP
R 3 4	Does the community have a wastewater system specific Emergency Response Plan (ERP)?	Implemented Site Specific ERP
R 3 5	In general, is maintenance of the wastewater treatment and collection system (as applicable) taking place?	Adequate Maintenance
R 3 6	Does the system appear to be operated adequately? (This could be assessed, for example, by asking the operator to describe each process unit and explain how each is controlled and operated.)	Operated Adequately
R 3 7	Is there evidence that routine O&M activities are being planned?	Adequately Planned
R 3 8	Comment	

Record Keeping and Reporting Risk

The Record Keeping and Reporting Risk component represents the operational method of recording data and providing the required reports. This includes both manual and automated methods of record keeping and reporting.

R 4 1	What approximate percentage of appropriate O&M records, as required by AANDC protocols, are available? (Records include: log book of daily plant checks, log book of effluent quality checks, log sheets for calibrating analyzers, log sheets for chemical volumes used, log sheets for chemicals delivered, sign in sheet for visitors, maintenance performance logs for all equipment, sample analysis results, inspection reports)	0 25 %
	(Inspectors are expected to use judgment as to what is reasonable and appropriate in terms of record keeping for the particular circumstances of the wastewater system (e.g., location of the plant, size of the facility, availability of accredited laboratory service, etc.))	
R 4 2	Are any critical parameters measured inconsistently or not at all? Critical Parameters include: CBOD ₅ , CBOD, TSS, N, NH ₃ , Total Residual Chlorine. Frequency: Effluent from continuous discharge systems should be sampled at least once per month. Effluent from intermittent discharge systems should be sampled at least once per discharge event.	No
R 4 3	Do the records indicate that all required calibration is being performed? (This question is applicable to both systems monitored in situ and to systems monitored remotely.)	N/A
R 4 4	Comment	

Operator Risk



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

2016

7583 NAK AZDLI Community Sewage Collection & Treatment System System #7583

System	7583 NAK AZDLI Community Sewage Collection & Treatment System System
System Type	#7583 Wastewater
System Sub Type	Centralised
Status	Active
INAC Funded	Yes
Year of Construction	0
Shared System	No
Site	07538 NAK AZDLI
GIS Latitude	
GIS Longitude	

Users Information

Estimated population served by the System(s) (as estimated by the operator)	750
Number of households served by the system	400
Number of community buildings served by the system	14
Number of industrial and commercial users of the system	5

System Classifications

Treatment System Classification	Small System
Regional Treatment System Classification	
Collection System Classification	Small System
Regional Collection System Classification	

System Design

Design capacity of the wastewater system (m ³ /day) (average)	1000
Collection type	Piped
Effluent discharge location	MTSA
Receiving environment	
Level of wastewater treatment	Secondary
Type of wastewater treatment system	Mechanical Treatment
If Mechanical Treatment or Other please specify	Aerated lagoon with continuous discharge to Stuart River

Effluent Receiver

Based on existing studies have any species at risk (as defined by the Species at Risk Act) been documented in the effluent receiving environment?	No
Is the receiving environment officially designated as a sensitive area such as a conservation area habitat preserve or similar protected environment?	No



First Nation Treatment Systems - Annual Performance Inspection Results Report

As Of 2017/08/24

Are there any nearby human uses of the effluent receiving environment susceptible to be compromised by the wastewater system effluent (e.g. drinking water intake quality or fishing/shellfish harvesting affected by the wastewater system discharge etc)?

No

Daily Volume (Use all data collected over the past year to determine min, max and avg)

Daily volume (m /day) [min]	250
Daily volume (m /day) [max]	500
Daily volume (m /day) (If no flow meter is available please estimate) [avg]	325

Inspection Information

Name	2015 2016 API North 0
Fiscal Year	2015 2016
Actual Date of Field Inspection	2015/10/07
Inspection Completed By	Dave Smith

Deficiencies And Recommendations

General/additional comments from the inspector

For the wastewater system which is being inspected please describe at least one effective activity being undertaken

Outstanding Deficiencies And Recommendations

The following are problems noted by the inspectors and their recommendations to address them

Description

Remarks and Recommendations

The operator is not involved in the budget preparation process for the systems operations & maintain budget

Operator should participate in budget preparation

The operator is not involved in tracking billing and expenditures related to the system

Operator should track expenditures for the system



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

System Risk Score

A system risk score is assigned to every water or wastewater system within your community. Risk values fall into three (3) categories:

High Risk: A System Risk score greater than 7. Major deficiencies exist in most of the components. Should a problem arise, the system and processes in place are unlikely to be able to compensate; thus, there is a high probability that any problem could result in unsafe water or properly treated effluent. Issues should be addressed as soon as possible.

Medium Risk: A System Risk score greater than 4 and less than or equal to 7. Minor deficiencies exist in several components or major deficiencies exist in one or two components. Should a problem arise, the system and its processes can probably compensate for the problem; thus, there is a medium probability that any problem could result in unsafe water or improperly treated effluent. Issues need to be addressed.

Low Risk: A System Risk score less than or equal to 4. Minor or no deficiencies with the system or processes in place. Should a problem occur, it is likely that the system and processes in place will be able to compensate and continue to provide safe water or properly treated effluent while the issue is being resolved.

For each system, an individual risk score has been determined for each of the five (5) risk components (Effluent/Water Source Risk, Design Risk, Operation and Maintenance (O&M) Risk, Record Keeping and Reporting Risk, and Operator Risk) that make up the system risk score.

Effluent Risk (20% weight)	1
Design Risk (25% weight)	1.5
Operation and Maintenance (O&M) Risk (25% weight)	3
Record Keeping and Reporting Risk (10% weight)	1
Operator Risk (20% weight)	1
Calculated System Risk	1.62
Adjusted System Risk	0



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

QUESTIONNAIRE RESPONSES

Risk Responses

Effluent Risk

The Effluent Risk component measures the risk inherent in the receiving water's ability to deal with wastewater effluent as well as the risk associated with the system to produce effluent compliant with applicable regulations. For MTSA systems this component is the risk inherent to the contract in place with the MTSA provider. This includes the quality of the contractual agreement.

- | | | |
|-------|---|------|
| R 1 1 | What is the nature of the receiving environment? (Note that an engineered wetland should be considered part of the treatment system not the receiving environment) | MTSA |
| R 1 2 | Has this facility received a compliance order from Environment Canada (EC) that has not yet been addressed? | No |
| R 1 3 | Comment | |

Design Risk

The System Design Risk component represents risks in how the treatment and collection system was designed and built including the facility equipment treatment process and collection system. It assesses the ability and effectiveness of the treatment process to produce treated wastewater meeting the required effluent quality. For MTSA systems this component represents risks in how the collection system was designed and built (e.g. pump stations collection piping).

- | | | |
|-------------|--|--------------------------------------|
| R 2 1 | There is a base point of 1 to ensure that the lowest possible Design Risk score is 1 | 1 |
| R 2 2 | Based on average values of valid effluent samples does the treated wastewater effluent quality exceeds CBOD $\leq 25\text{mg/L}$ TSS $\leq 25\text{mg/L}$ Total Residual Chlorine $\leq 0.02\text{ mg/L}$ and/or $\text{NH}_3\text{ N} \leq 1.25\text{ mg/L}$ (at 15 C) due to a design issue? | Does not Exceed due to Design Issues |
| R 2 2 notes | If there were exceedences of the above noted parameter(s) identify which of the parameter(s) were exceeded | |
| R 2 3 | To the best of your knowledge and as per your on site observations does the system meet all applicable provincial and federal standards? | Meets Standards |
| R 2 4 | Is the system designed with all appropriate treatment processes for adequately treating the raw wastewater to the necessary effluent quality standard? | Appropriate Treatment(s) |
| R 2 4 notes | If the answer for 2 4 is 2 Inappropriate Treatment(s) please note both the issue(s) and potential remedial solutions | |
| R 2 5 | Are the process wastes (e.g. sludge backwash streams instruments waste streams etc.) properly managed? | Proper Waste Management |
| R 2 6 | Does the collection and treatment system have sufficient capacity at present and to the best of your knowledge for the foreseeable near future (i.e. 5 years)? | Sufficient System Capacity |
| R 2 7 | Are there any reliability concerns associated with the treatment and collection system's equipment? | No Reliability Concerns |
| R 2 8 | In instances where disinfection of the treated effluent is required (e.g. discharge into a surface water body from a mechanical treatment system) does the treatment system include a designed means of disinfection? | No |
| R 2 9 | Did you witness any health and safety concerns relating to dangerous workplace practices equipments building conditions or situations during the visit? | No Health and Safety (H&S) Concerns |
| R 2 9 notes | If the answer for 2 9 is 2 or 3 Minor or Significant Health Concerns please note both the issue(s) and potential remedial solutions | |
| R 2 10 | Comment | |



First Nation Treatment Systems - Annual Performance Inspection Results Report

As Of 2017/08/24

Operation and Maintenance (O&M) Risk

The Operation and Maintenance Risk component assesses how the treatment and collection system is being operated and maintained. For MTSAs, this component assesses how the collection system is being operated and maintained. This component is meant to determine whether or not appropriate operation and maintenance procedures are in place and being properly implemented.

R 3 1	There is a base point of 1 to ensure that the lowest possible O&M Risk score is 1	1
R 3 2	Based on average values of valid effluent samples, does the treated wastewater effluent quality exceed CBOD \leq 25mg/L, TSS \leq 25mg/L, Total Residual Chlorine \leq 0.02 mg/L and/or NH ₃ -N \leq 1.25 mg/L (at 15 °C) due to an operation and maintenance (O&M) issue?	Insufficient Number of Samples
R 3 2 notes	If there were exceedences of the above noted parameter(s), identify which of the parameter(s) were exceeded	
R 3 3	Is there a Maintenance Management Plan (MMP) for the treatment and collection system (as applicable)?	Implemented Site Specific MMP
R 3 4	Does the community have a wastewater system specific Emergency Response Plan (ERP)?	Implemented Site Specific ERP
R 3 5	In general, is maintenance of the wastewater treatment and collection system (as applicable) taking place?	Adequate Maintenance
R 3 6	Does the system appear to be operated adequately? (This could be assessed, for example, by asking the operator to describe each process unit and explain how each is controlled and operated.)	Operated Adequately
R 3 7	Is there evidence that routine O&M activities are being planned?	Adequately Planned
R 3 8	Comment	

Record Keeping and Reporting Risk

The Record Keeping and Reporting Risk component represents the operational method of recording data and providing the required reports. This includes both manual and automated methods of record keeping and reporting.

R 4 1	What approximate percentage of appropriate O&M records, as required by AANDC protocols, are available? (Records include: log book of daily plant checks, log book of effluent quality checks, log sheets for calibrating analyzers, log sheets for chemical volumes used, log sheets for chemicals delivered, sign in sheet for visitors, maintenance performance logs for all equipment, sample analysis results, inspection reports)	75% 100 %
	(Inspectors are expected to use judgment as to what is reasonable and appropriate in terms of record keeping for the particular circumstances of the wastewater system (e.g., location of the plant, size of the facility, availability of accredited laboratory service, etc.))	
R 4 2	Are any critical parameters measured inconsistently or not at all? Critical Parameters include: CBOD ₅ , CBOD, TSS, N, NH ₃ , Total Residual Chlorine. Frequency: Effluent from continuous discharge systems should be sampled at least once per month. Effluent from intermittent discharge systems should be sampled at least once per discharge event.	No
R 4 3	Do the records indicate that all required calibration is being performed? (This question is applicable to both systems monitored in situ and to systems monitored remotely.)	Yes
R 4 4	Comment	

Operator Risk



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

2015

7583 NAK AZDLI Community Sewage Collection & Treatment System System #7583

System	7583 NAK AZDLI Community Sewage Collection & Treatment System System
System Type	#7583 Wastewater
System Sub Type	Centralised
Status	Active
INAC Funded	Yes
Year of Construction	0
Shared System	No
Site	07538 NAK AZDLI
GIS Latitude	
GIS Longitude	

Users Information

Estimated population served by the System(s) (as estimated by the operator)	1300
Number of households served by the system	400
Number of community buildings served by the system	14
Number of industrial and commercial users of the system	3

System Classifications

Treatment System Classification	Small System
Regional Treatment System Classification	
Collection System Classification	Small System
Regional Collection System Classification	

System Design

Design capacity of the wastewater system (m ³ /day) (average)	1000
Collection type	Piped
Effluent discharge location	MTSA
Receiving environment	
Level of wastewater treatment	Secondary
Type of wastewater treatment system	Mechanical Treatment
If Mechanical Treatment or Other please specify	Aerated lagoon with continuous discharge to Stuart River

Effluent Receiver

Based on existing studies have any species at risk (as defined by the Species at Risk Act) been documented in the effluent receiving environment?	No
Is the receiving environment officially designated as a sensitive area such as a conservation area habitat preserve or similar protected environment?	No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

Are there any nearby human uses of the effluent receiving environment susceptible to be compromised by the wastewater system effluent (e.g. drinking water intake quality or fishing/shellfish harvesting affected by the wastewater system discharge etc)? No

Daily Volume (Use all data collected over the past year to determine min max and avg)

Daily volume (m /day) [min]	250
Daily volume (m /day) [max]	500
Daily volume (m /day) (If no flow meter is available please estimate) [avg]	325

Inspection Information

Name	2014 2015 API North 0
Fiscal Year	2014 2015
Actual Date of Field Inspection	2014/08/26
Inspection Completed By	Jouko Kurkiniemi

Deficiencies And Recommendations

General/additional comments from the inspector

For the wastewater system which is being inspected please describe at least one effective activity being undertaken Repairs done as needed

Outstanding Deficiencies And Recommendations

The following are problems noted by the inspectors and their recommendations to address them

Description

Remarks and Recommendations

The operator is not involved in the budget preparation process for the systs operatns & maint budget

Operator should participate in budget preparation

The operator is not involved in tracking billing and expenditures related to the system

Operator should track expenditures for the system



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

System Risk Score

A system risk score is assigned to every water or wastewater system within your community. Risk values fall into three (3) categories:

High Risk: A System Risk score greater than 7. Major deficiencies exist in most of the components. Should a problem arise, the system and processes in place are unlikely to be able to compensate; thus, there is a high probability that any problem could result in unsafe water or properly treated effluent. Issues should be addressed as soon as possible.

Medium Risk: A System Risk score greater than 4 and less than or equal to 7. Minor deficiencies exist in several components or major deficiencies exist in one or two components. Should a problem arise, the system and its processes can probably compensate for the problem; thus, there is a medium probability that any problem could result in unsafe water or improperly treated effluent. Issues need to be addressed.

Low Risk: A System Risk score less than or equal to 4. Minor or no deficiencies with the system or processes in place. Should a problem occur, it is likely that the system and processes in place will be able to compensate and continue to provide safe water or properly treated effluent while the issue is being resolved.

For each system, an individual risk score has been determined for each of the five (5) risk components (Effluent/Water Source Risk, Design Risk, Operation and Maintenance (O&M) Risk, Record Keeping and Reporting Risk, and Operator Risk) that make up the system risk score.

Effluent Risk (20% weight)	5
Design Risk (25% weight)	1.5
Operation and Maintenance (O&M) Risk (25% weight)	3
Record Keeping and Reporting Risk (10% weight)	3
Operator Risk (20% weight)	2
Calculated System Risk	2.82
Adjusted System Risk	0



First Nation Treatment Systems - Annual Performance Inspection Results Report

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QUESTIONNAIRE RESPONSES

Risk Responses

Effluent Risk

The Effluent Risk component measures the risk inherent in the receiving water's ability to deal with wastewater effluent as well as the risk associated with the system to produce effluent compliant with applicable regulations. For MTSA systems this component is the risk inherent to the contract in place with the MTSA provider. This includes the quality of the contractual agreement.

- | | | |
|-------|---|----------------------------|
| R 1 1 | What is the nature of the receiving environment? (Note that an engineered wetland should be considered part of the treatment system not the receiving environment) | Fast Flowing Surface Water |
| R 1 2 | Has this facility received a compliance order from Environment Canada (EC) that has not yet been addressed? | No |
| R 1 3 | Comment | |

Design Risk

The System Design Risk component represents risks in how the treatment and collection system was designed and built including the facility equipment treatment process and collection system. It assesses the ability and effectiveness of the treatment process to produce treated wastewater meeting the required effluent quality. For MTSA systems this component represents risks in how the collection system was designed and built (e.g. pump stations collection piping).

- | | | |
|-------------|---|--------------------------------------|
| R 2 1 | There is a base point of 1 to ensure that the lowest possible Design Risk score is 1 | 1 |
| R 2 2 | Based on average values of valid effluent samples does the treated wastewater effluent quality exceeds CBOD \leq 25mg/L TSS \leq 25mg/L Total Residual Chlorine \leq 0.02 mg/L and/or NH ₃ N \leq 1.25 mg/L (at 15 C) due to a design issue? | Does not Exceed due to Design Issues |
| R 2 2 notes | If there were exceedences of the above noted parameter(s) identify which of the parameter(s) were exceeded | |
| R 2 3 | To the best of your knowledge and as per your on site observations does the system meet all applicable provincial and federal standards? | Meets Standards |
| R 2 4 | Is the system designed with all appropriate treatment processes for adequately treating the raw wastewater to the necessary effluent quality standard? | Appropriate Treatment(s) |
| R 2 4 notes | If the answer for 2 4 is 2 Inappropriate Treatment(s) please note both the issue(s) and potential remedial solutions | |
| R 2 5 | Are the process wastes (e.g. sludge backwash streams instruments waste streams etc.) properly managed? | Proper Waste Management |
| R 2 6 | Does the collection and treatment system have sufficient capacity at present and to the best of your knowledge for the foreseeable near future (i.e. 5 years)? | Sufficient System Capacity |
| R 2 7 | Are there any reliability concerns associated with the treatment and collection system's equipment? | No Reliability Concerns |
| R 2 8 | In instances where disinfection of the treated effluent is required (e.g. discharge into a surface water body from a mechanical treatment system) does the treatment system include a designed means of disinfection? | No |
| R 2 9 | Did you witness any health and safety concerns relating to dangerous workplace practices equipments building conditions or situations during the visit? | No Health and Safety (H&S) Concerns |
| R 2 9 notes | If the answer for 2 9 is 2 or 3 Minor or Significant Health Concerns please note both the issue(s) and potential remedial solutions | |
| R 2 10 | Comment | |



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Operation and Maintenance (O&M) Risk

The Operation and Maintenance Risk component assesses how the treatment and collection system is being operated and maintained. For MTSAs, this component assesses how the collection system is being operated and maintained. This component is meant to determine whether or not appropriate operation and maintenance procedures are in place and being properly implemented.

R 3 1	There is a base point of 1 to ensure that the lowest possible O&M Risk score is 1	1
R 3 2	Based on average values of valid effluent samples, does the treated wastewater effluent quality exceed CBOD \leq 25mg/L, TSS \leq 25mg/L, Total Residual Chlorine \leq 0.02 mg/L and/or NH ₃ -N \leq 1.25 mg/L (at 15 °C) due to an operation and maintenance (O&M) issue?	Insufficient Number of Samples
R 3 2 notes	If there were exceedences of the above noted parameter(s), identify which of the parameter(s) were exceeded	
R 3 3	Is there a Maintenance Management Plan (MMP) for the treatment and collection system (as applicable)?	Implemented Site Specific MMP
R 3 4	Does the community have a wastewater system specific Emergency Response Plan (ERP)?	Implemented Site Specific ERP
R 3 5	In general, is maintenance of the wastewater treatment and collection system (as applicable) taking place?	Adequate Maintenance
R 3 6	Does the system appear to be operated adequately? (This could be assessed, for example, by asking the operator to describe each process unit and explain how each is controlled and operated.)	Operated Adequately
R 3 7	Is there evidence that routine O&M activities are being planned?	Adequately Planned
R 3 8	Comment	

Record Keeping and Reporting Risk

The Record Keeping and Reporting Risk component represents the operational method of recording data and providing the required reports. This includes both manual and automated methods of record keeping and reporting.

R 4 1	What approximate percentage of appropriate O&M records, as required by AANDC protocols, are available? (Records include: log book of daily plant checks, log book of effluent quality checks, log sheets for calibrating analyzers, log sheets for chemical volumes used, log sheets for chemicals delivered, sign-in sheet for visitors, maintenance performance logs for all equipment, sample analysis results, inspection reports)	75% 100%
	(Inspectors are expected to use judgment as to what is reasonable and appropriate in terms of record keeping for the particular circumstances of the wastewater system (e.g., location of the plant, size of the facility, availability of accredited laboratory service, etc.))	
R 4 2	Are any critical parameters measured inconsistently or not at all? Critical Parameters include: CBOD ₅ , CBOD, TSS, N, NH ₃ , Total Residual Chlorine. Frequency: Effluent from continuous discharge systems should be sampled at least once per month. Effluent from intermittent discharge systems should be sampled at least once per discharge event.	Yes
R 4 3	Do the records indicate that all required calibration is being performed? (This question is applicable to both systems monitored in situ and to systems monitored remotely.)	Yes
R 4 4	Comment	

Operator Risk



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2014

7583 NAK AZDLI Community Sewage Collection & Treatment System System #7583

System	7583 NAK AZDLI Community Sewage Collection & Treatment System System
System Type	#7583 Wastewater
System Sub Type	
Status	Active
INAC Funded	Yes
Year of Construction	0
Shared System	No
Site	07538 NAK AZDLI
GIS Latitude	
GIS Longitude	

General

BOD5 Minimum

General

On reserve population served by Treatment System	925
BOD5 Maximum	
On reserve population NOT served by the Treatment System	12
BOD5 Average	
What are the number of hours/month that an Operator is working on the system?	80
CBOD5 Minimum	
Start of reporting period	2013/04/01
CBOD5 Maximum	
End of reporting period	2014/03/31

Sensitivity of Receiving Environment

Is the lake used as a drinking water source?	No
CBOD5 Average	
COD Minimum	
If YES what is the distance downstream to the water intake (metres)?	
COD Maximum	
Is the lake used for swimming?	Yes
COD Average	
If YES what is the distance to the swimming area (meters)?	1000
Is the river used as a drinking water source?	No
Total suspended solids Minimum	
Total suspended solids Maximum	
If YES what is the distance to the upstream water intake (meters)?	
If YES what is the distance to the downstream water intake (meters)?	



First Nation Treatment Systems Annual Performance Inspection Results Report

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Total suspended solids	Average	
Total dissolved solids	Minimum	
Is the river used for swimming?		No
If YES what is the distance to the swimming area (meters)?		
Total dissolved solids	Maximum	
Marine environment with shellfish values?		No
Total dissolved solids	Average	
If YES what is the distance to the shellfish area (meters)?		
Nitrogen	Minimum	
Nitrogen	Maximum	
Marine environment with swimming beach?		No
If YES what is the distance to the beach (meters)?		
Nitrogen	Average	
Total Ammonia	Minimum	
Groundwater with unconfined aquifer?		No
If YES what is the distance down gradient to the potable well (meters)?		
Total Ammonia	Maximum	
Total Ammonia	Average	
If YES what is the distance upgradient to the potable well (meters)?		

Treatment System Design

What is the type of wastewater treatment system?	Other
Orthophosphorus	Minimum
If 4 Mechanical Treatment or 5 Other please specify	aerated lagoon under MTA with District of Ft St James
Orthophosphorus	Maximum
Orthophosphorus	Average
What is the designed capacity of the wastewater system (m3/day)?	1000
What is the collection type?	Piped
Total Phosphorus	Minimum

Effluent Quality Criteria

Total Phosphorus	Maximum
BOD5	
Total Phosphorus	Average
CBOD5	
COD	
Un ionised NH3	Minimum
TSS	0
Un ionised NH3	Maximum
Un ionised NH3	Average
TDS	
Nitrogen	
pH	Minimum



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Total Ammonia

pH Maximum

pH Average

Orthophosphorus

LC 50 (or LT 96) Minimum

Total phosphorus

LC 50 (or LT 96) Maximum

Un ionised NH3

LC 50 (or LT 96) Average

pH

Total Cl residual Minimum

LC 50 (or LT 96)

Total Cl Residual (TRC)

Total Cl residual Maximum

Total coliform (CFU/100mL)

Total Cl residual Average

Total coliform (CFU/100mL) Minimum

Are there any commercial inputs into the wastewater stream (ex garages restaurants)? Yes

Are there any industrial inputs into the wastewater stream (ex resource development food processing)? Yes

Total coliform (CFU/100mL) Maximum

Are there any institutional inputs into the wastewater stream (ex hospitals laboratories)? Yes

Total coliform (CFU/100mL) Average

Provide any available information on reasons for adverse effluent test results

Is the discharge seasonal or continuous? Continuous

Was testing conducted by a third party (eg Environment Canada)? (Note No
If YES attach the third party data)

If you answered YES to question 1p and did not attach data please explain
why the third party data is not attached?

Emergency Management Plan (EMP)

Does the treatment system have an Emergency Management Plan (EMP)? Yes

If seasonal specify discharge period

If NO then what is the target date to implement one?

If the type of Treatment System is Lagoon please specify the discharge
frequency

Location of Discharge (Outfall)

Longitude

If YES then when was the EMP implemented? 2011/01/01

When was the EMP last updated or reviewed?

Latitude

Does the treatment system have a Business Continuity Plan (BCP)? No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

If YES when was the Business Continuity Plan implemented/updated?

Is the back up operator named?

Yes

Maintenance Management Plan

Does the treatment system have a Maintenance Management Plan (MMP) that is successfully implemented? Yes

If NO then what is the target date to implement one?

If YES then when was the MMP implemented?

2012/06/30

When was the MMP last updated or reviewed?

System Classification

Treatment system classification

Regional System Classification

Collection System Classification

Regional Collection System Classification

Operator Information

Is there a primary operator?

Yes

If NO then what is the target date to secure a primary operator?

If YES then is the primary operator certified to the level of the system (note system includes both treatment and collection)? Yes

If the primary operator is not certified to the level of the system they manage has the band created a training plan to prepare the primary operator for the certification or to increase the level of certification?

If YES then what is the target certification date?

Is there a backup operator?

Yes

If NO then what is the target date to secure a certified backup operator?

If YES then is the backup operator certified to the level of the system they manage? Yes

If the backup operator is not certified to the level of the system they manage has the band created a training plan to prepare the operator for the certification or to increase the level of certification?

If YES then what is the target certification date?

Deficiencies

Number of outstanding health and safety projects (ACRS Group 2 Type 1)

Number of these projects completed during the current year

Percentage of health and safety projects completed this year

Connections

Number of connections

250

Maintenance

Are maintenance activities for this system scheduled and performed? Yes

Is there an annual budget allocated by the band for day to day operation and maintenance costs (not major capital costs) of the system? Yes

Is the operator involved in the budget preparation process for the system's operations and maintenance budget? No

Is the operator involved in tracking billing and expenditures related to the system? No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

Does the budget appear to be adequate for operation and maintenance of this wastewater system?	Yes
Is there a responsible and qualified party to ensure that operations and maintenance work is being undertaken?	Yes
Are records kept of system repairs and upgrades and their costs?	Yes
Are instruments and equipment calibrated on an appropriate schedule and used for their intended purpose?	Yes
Is the O and M Effort acceptable or outstanding?	Yes

Operations

Is a current copy of the standard operating procedures (SOPs) on site?	Yes
Are there adequate quantities of treatment chemicals onsite?	Yes
Are treatment chemicals stored properly? Provide details	Yes
Are there any worker compensation safety issues that need to be addressed?	No
Is there a backup power supply?	Yes

Test Equipment

Is adequate effluent testing equipment onsite?	Yes
--	-----

Record Keeping

Are records being kept of daily effluent volume flow rate meter readings?	Yes
If the effluent is disinfected with chlorination and dechlorination chemicals are records kept of types dosages usage dates and total amounts of chemical used?	
If the effluent is disinfected with ultraviolet light are records kept of UV transmittance tube cleaning and fecal coliform sample results?	
Are records kept of operational problems (power failure pump failure etc) as well as of the actions that were taken to remedy the issues?	Yes
Were anomalies and missing records properly explained? (ex operator was away on sick leave)?	Yes
Are there records that should have been kept but were not?	No

Inspection Information

Name	2013 2014 API North 0
Fiscal Year	2013 2014
Actual Date of Field Inspection	2013/09/18
Inspection Completed By	

Deficiencies And Recommendations



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

2013

7583 NAK AZDLI Community Sewage Collection & Treatment System System #7583

System	7583 NAK AZDLI Community Sewage Collection & Treatment System System
System Type	#7583 Wastewater
System Sub Type	
Status	Active
INAC Funded	Yes
Year of Construction	0
Shared System	No
Site	07538 NAK AZDLI
GIS Latitude	
GIS Longitude	

General

BOD5 Minimum

General

On reserve population served by Treatment System	925
BOD5 Maximum	
On reserve population NOT served by the Treatment System	12
BOD5 Average	
What are the number of hours/month that an Operator is working on the system?	80
Start of reporting period	2012/04/01
CBOD5 Minimum	
CBOD5 Maximum	
End of reporting period	2013/03/31

Sensitivity of Receiving Environment

Is the lake used as a drinking water source?	No
CBOD5 Average	
COD Minimum	
If YES what is the distance downstream to the water intake (metres)?	
COD Maximum	
Is the lake used for swimming?	No
COD Average	
If YES what is the distance to the swimming area (meters)?	
Total suspended solids Minimum	
Is the river used as a drinking water source?	No
Total suspended solids Maximum	
If YES what is the distance to the upstream water intake (meters)?	
Total suspended solids Average	



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

If YES what is the distance to the downstream water intake (meters)?

Is the river used for swimming?

No

Total dissolved solids Minimum

If YES what is the distance to the swimming area (meters)?

Total dissolved solids Maximum

Total dissolved solids Average

Marine environment with shellfish values?

No

If YES what is the distance to the shellfish area (meters)?

Nitrogen Minimum

Nitrogen Maximum

Marine environment with swimming beach?

No

Nitrogen Average

If YES what is the distance to the beach (meters)?

Total Ammonia Minimum

Groundwater with unconfined aquifer?

No

Total Ammonia Maximum

If YES what is the distance down gradient to the potable well (meters)?

If YES what is the distance upgradient to the potable well (meters)?

Total Ammonia Average

Treatment System Design

What is the type of wastewater treatment system?

Other

Orthophosphorus Minimum

Orthophosphorus Maximum

If 4 Mechanical Treatment or 5 Other' please specify

aerated lagoon under MTA with District of Ft St
James

What is the designed capacity of the wastewater system (m3/day)?

1000

Orthophosphorus Average

What is the collection type?

Piped

Total Phosphorus Minimum

Effluent Quality Criteria

Total Phosphorus Maximum

BOD5

0

Total Phosphorus Average

CBOD5

0

Un ionised NH3 Minimum

COD

0

Un ionised NH3 Maximum

TSS

0

TDS

0

Un ionised NH3 Average

pH Minimum

Nitrogen

0



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

Total Ammonia	0
pH Maximum	
Orthophosphorus	0
pH Average	
LC 50 (or LT 96) Minimum	
Total phosphorus	0
LC 50 (or LT 96) Maximum	
Un ionised NH3	0
LC 50 (or LT 96) Average	
pH	0
LC 50 (or LT 96)	0
Total Cl residual Minimum	
Total Cl residual Maximum	
Total Cl Residual (TRC)	0
Total coliform (CFU/100mL)	0
Total Cl residual Average	
Total coliform (CFU/100mL) Minimum	
Are there any commercial inputs into the wastewater stream (ex garages restaurants)?	Yes
Are there any industrial inputs into the wastewater stream (ex resource development food processing)?	Yes
Total coliform (CFU/100mL) Maximum	
Are there any institutional inputs into the wastewater stream (ex hospitals laboratories)?	Yes
Total coliform (CFU/100mL) Average	
Is the discharge seasonal or continuous?	Continuous
Provide any available information on reasons for adverse effluent test results	
Was testing conducted by a third party (eg Environment Canada)? (Note If YES attach the third party data)	No
If you answered YES to question 1p and did not attach data please explain why the third party data is not attached?	
Emergency Management Plan (EMP)	
If seasonal specify discharge period	
Does the treatment system have an Emergency Management Plan (EMP)?	Yes
If the type of Treatment System is Lagoon please specify the discharge frequency	
If NO then what is the target date to implement one?	
Location of Discharge (Outfall)	
If YES then when was the EMP implemented?	2011/01/01
Longitude	
Latitude	
When was the EMP last updated or reviewed?	
Does the treatment system have a Business Continuity Plan (BCP)?	No



First Nation Treatment Systems - Annual Performance Inspection Results Report

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If YES when was the Business Continuity Plan implemented/updated?

Is the back up operator named?

Yes

Maintenance Management Plan

Does the treatment system have a Maintenance Management Plan (MMP) that is successfully implemented? No

If NO then what is the target date to implement one?

If YES then when was the MMP implemented?

When was the MMP last updated or reviewed?

System Classification

Treatment system classification

Regional System Classification

Collection System Classification

Regional Collection System Classification

Operator Information

Is there a primary operator?

Yes

If NO then what is the target date to secure a primary operator?

If YES then is the primary operator certified to the level of the system (note system includes both treatment and collection)? Yes

If the primary operator is not certified to the level of the system they manage has the band created a training plan to prepare the primary operator for the certification or to increase the level of certification?

If YES then what is the target certification date?

Is there a backup operator?

Yes

If NO then what is the target date to secure a certified backup operator?

If YES then is the backup operator certified to the level of the system they manage? Yes

If the backup operator is not certified to the level of the system they manage has the band created a training plan to prepare the operator for the certification or to increase the level of certification?

If YES then what is the target certification date?

Deficiencies

Number of outstanding health and safety projects (ACRS Group 2 Type 1)

Number of these projects completed during the current year

Percentage of health and safety projects completed this year

Connections

Number of connections

250

Maintenance

Are maintenance activities for this system scheduled and performed? Yes

Is there an annual budget allocated by the band for day to day operation and maintenance costs (not major capital costs) of the system? Yes

Is the operator involved in the budget preparation process for the system's operations and maintenance budget? No

Is the operator involved in tracking billing and expenditures related to the system? No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

2012

7583 NAK AZDLI Community Sewage Collection & Treatment System System #7583

System	7583 NAK AZDLI Community Sewage Collection & Treatment System System
System Type	#7583 Wastewater
System Sub Type	
Status	Active
INAC Funded	Yes
Year of Construction	0
Shared System	No
Site	07538 NAKAZDLI
GIS Latitude	
GIS Longitude	

General

BOD5 Minimum

General

On reserve population served by Treatment System	925
BOD5 Maximum	
On reserve population NOT served by the Treatment System	12
What are the number of hours/month that an Operator is working on the system?	80
BOD5 Average	
Start of reporting period	2011/04/01
CBOD5 Minimum	
End of reporting period	2012/03/31
CBOD5 Maximum	

Sensitivity of Receiving Environment

Is the lake used as a drinking water source?	No
CBOD5 Average	
COD Minimum	
If YES what is the distance downstream to the water intake (metres)?	
Is the lake used for swimming?	No
COD Maximum	
COD Average	
If YES what is the distance to the swimming area (meters)?	
Is the river used as a drinking water source?	No
Total suspended solids Minimum	
If YES what is the distance to the upstream water intake (meters)?	
Total suspended solids Maximum	
Total suspended solids Average	



First Nation Treatment Systems Annual Performance Inspection Results Report

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If YES what is the distance to the downstream water intake (meters)?

Total dissolved solids Minimum

Is the river used for swimming?

No

If YES what is the distance to the swimming area (meters)?

Total dissolved solids Maximum

Total dissolved solids Average

Marine environment with shellfish values?

No

Nitrogen Minimum

If YES what is the distance to the shellfish area (meters)?

Nitrogen Maximum

Marine environment with swimming beach?

No

Nitrogen Average

If YES what is the distance to the beach (meters)?

Total Ammonia Minimum

Groundwater with unconfined aquifer?

No

If YES what is the distance down gradient to the potable well (meters)?

Total Ammonia Maximum

If YES what is the distance upgradient to the potable well (meters)?

Total Ammonia Average

Treatment System Design

Orthophosphorus Minimum

What is the type of wastewater treatment system?

Other

If 4 Mechanical Treatment or 5 Other please specify

aerated lagoon under MTA with District of Ft St James

Orthophosphorus Maximum

What is the designed capacity of the wastewater system (m3/day)?

1000

Orthophosphorus Average

Total Phosphorus Minimum

What is the collection type?

Piped

Effluent Quality Criteria

BOD5

0

Total Phosphorus Maximum

Total Phosphorus Average

CBOD5

0

COD

0

Un ionised NH3 Minimum

Un ionised NH3 Maximum

TSS

0

Un ionised NH3 Average

TDS

0

pH Minimum

Nitrogen

0



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

Total Ammonia	0
pH Maximum	
Orthophosphorus	0
pH Average	
Total phosphorus	0
LC 50 (or LT 96) Minimum	
LC 50 (or LT 96) Maximum	
Un ionised NH3	0
LC 50 (or LT 96) Average	
pH	0
LC 50 (or LT 96)	0
Total Cl residual Minimum	
Total Cl Residual (TRC)	0
Total Cl residual Maximum	
Total coliform (CFU/100mL)	0
Total Cl residual Average	
Are there any commercial inputs into the wastewater stream (ex garages restaurants)?	Yes
Total coliform (CFU/100mL) Minimum	
Are there any industrial inputs into the wastewater stream (ex resource development food processing)?	Yes
Total coliform (CFU/100mL) Maximum	
Are there any institutional inputs into the wastewater stream (ex hospitals laboratories)?	Yes
Total coliform (CFU/100mL) Average	
Provide any available information on reasons for adverse effluent test results	
Is the discharge seasonal or continuous?	Continuous
Was testing conducted by a third party (eg Environment Canada)? (Note If YES attach the third party data)	No
If you answered YES to question 1p and did not attach data please explain why the third party data is not attached?	
Emergency Management Plan (EMP)	
Does the treatment system have an Emergency Management Plan (EMP)?	Yes
If seasonal specify discharge period	
If NO then what is the target date to implement one?	
If the type of Treatment System is Lagoon please specify the discharge frequency	
Location of Discharge (Outfall)	
Longitude	
If YES then when was the EMP implemented?	2011/01/01
Latitude	
When was the EMP last updated or reviewed?	
Does the treatment system have a Business Continuity Plan (BCP)?	No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

If YES when was the Business Continuity Plan implemented/updated?

Is the back up operator named?

Yes

Maintenance Management Plan

Does the treatment system have a Maintenance Management Plan (MMP) that is successfully implemented?

No

If NO then what is the target date to implement one?

2012/12/31

If YES then when was the MMP implemented?

When was the MMP last updated or reviewed?

System Classification

Treatment system classification

Regional System Classification

Collection System Classification

Regional Collection System Classification

Operator Information

Is there a primary operator?

Yes

If NO then what is the target date to secure a primary operator?

If YES then is the primary operator certified to the level of the system (note system includes both treatment and collection)?

Yes

If the primary operator is not certified to the level of the system they manage has the band created a training plan to prepare the primary operator for the certification or to increase the level of certification?

If YES then what is the target certification date?

Is there a backup operator?

Yes

If NO then what is the target date to secure a certified backup operator?

If YES then is the backup operator certified to the level of the system they manage?

Yes

If the backup operator is not certified to the level of the system they manage has the band created a training plan to prepare the operator for the certification or to increase the level of certification?

If YES then what is the target certification date?

Deficiencies

Number of outstanding health and safety projects (ACRS Group 2 Type 1)

Number of these projects completed during the current year

Percentage of health and safety projects completed this year

Connections

Number of connections

250

Maintenance

Are maintenance activities for this system scheduled and performed?

Yes

Is there an annual budget allocated by the band for day to day operation and maintenance costs (not major capital costs) of the system?

Yes

Is the operator involved in the budget preparation process for the system's operations and maintenance budget?

No

Is the operator involved in tracking billing and expenditures related to the system?

No



First Nation Treatment Systems Annual Performance Inspection Results Report

As Of 2017/08/24

Does the budget appear to be adequate for operation and maintenance of this wastewater system?	Yes
Is there a responsible and qualified party to ensure that operations and maintenance work is being undertaken?	Yes
Are records kept of system repairs and upgrades and their costs?	Yes
Are instruments and equipment calibrated on an appropriate schedule and used for their intended purpose?	Yes
Is the O and M Effort acceptable or outstanding?	Yes

Operations

Is a current copy of the standard operating procedures (SOPs) on site?	Yes
Are there adequate quantities of treatment chemicals onsite?	Yes
Are treatment chemicals stored properly? Provide details	Yes
Are there any worker compensation safety issues that need to be addressed?	No
Is there a backup power supply?	Yes

Test Equipment

Is adequate effluent testing equipment onsite?	Yes
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Record Keeping

Are records being kept of daily effluent volume flow rate meter readings?	Yes
If the effluent is disinfected with chlorination and dechlorination chemicals are records kept of types dosages usage dates and total amounts of chemical used?	
If the effluent is disinfected with ultraviolet light are records kept of UV transmittance tube cleaning and fecal coliform sample results?	
Are records kept of operational problems (power failure pump failure etc) as well as of the actions that were taken to remedy the issues?	Yes
Were anomalies and missing records properly explained? (ex operator was away on sick leave)?	Yes
Are there records that should have been kept but were not?	No

Inspection Information

Name	
Fiscal Year	2011 2012
Actual Date of Field Inspection	2012/04/23
Inspection Completed By	

Deficiencies And Recommendations

Wastewater System - NAK'AZDLI - Community Sewage Collection & Treatment System - Sys

General

System Name	NAK AZDLI Community Sewage Collection & Treatment System Sys
INAC System Number	7583
Year of Construction	1984

Effluent Receiver

Receiver Type	MTA (Necoslie River)
---------------	----------------------

Wastewater System Infrastructure Summary

Treatment System Classification	MTA
---------------------------------	-----

Collection Summary

Collection Classification	Level I
Piped	Yes 250 connections
Pipe Length	4448.0 m
Low Pressure	No
Sewage Pumping Stations	0
Trucked	No

Effluent Quality

Meets Guidelines	Yes
------------------	-----

Operators

Primary Operator	Treatment Certification Not required Collection Certification None
Secondary Operator	Treatment Certification Not required Collection Certification Small System

Risk Ranking

Risk Ranking	3.1 (Low)
--------------	-----------

Detailed calculations of the Risk Level Evaluation are presented in Appendix C

5 Wastewater System - NAK AZDLI Community Sewage Collection & Treatment System - Sys

Wastewater treatment is provided by the District of Fort St James. The system is a MTA facility.

The wastewater collection system that is located in Nakazdli is operated and maintained by Nakazdli First Nation.

There is also a lift station, force main, lagoon, and river outfall located on Nakazdli land. However, they are operated and maintained by the District of Fort St James.

5.1 Infrastructure

5.1.1 Collection

The collection system is classified as Small System. There are approximately 4448 meters of collection pipes servicing approximately 250 homes. Overall, the pipe condition is considered good.

5.2 Effluent Receiver

The effluent is processed via a Municipal Type Agreement (MTA) with the District of Fort St James. A copy of the MTA agreement was not obtained for review. It is not known whether the MTA will meet the wastewater processing needs for the next 10 years.

5.3 Operation & Maintenance

5.3.1 Budgeting

Detailed budget information was not obtained from the First Nation.

5.3.2 Operation & Maintenance Summary

Maintenance Management Plan (MMP)	A MMP is being developed; the target date is unknown.
Emergency Response Plan (ERP)	An ERP is not in place. The target date to implement a plan is unknown.
Operations & Maintenance Manual	The system does not have an O&M manual.
Operation Logs	Adequate and up to date.
Maintenance Logs	Adequate and up to date.
Record Keeping	Appropriate record keeping.
Maintenance Effort	The level of maintenance is acceptable.

All major components of the system are working.

5.4 Operators

The primary operator is not certified for wastewater collection. He is not certified to the level required by the system. A training plan is pending.

The secondary operator is Small System certified for wastewater systems.

5.5 Recommendations to Comply with Protocols and Guidelines

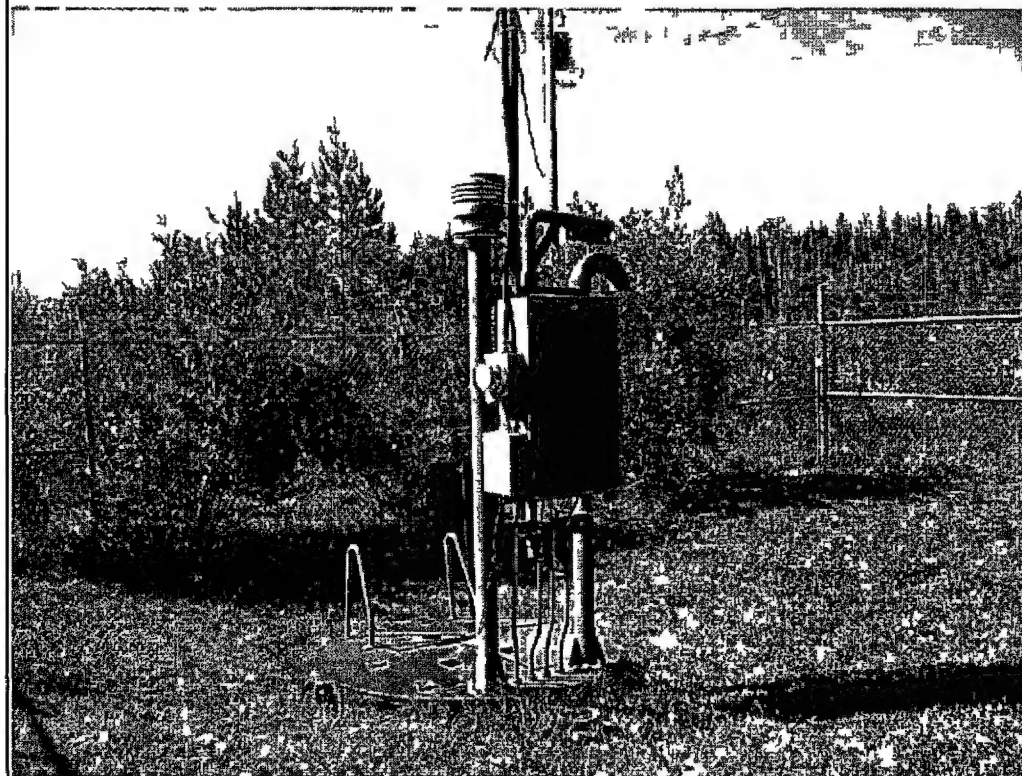
Recommendation			
Recommendation	INAC Protocol	Federal Guideline	Provincial Guideline
Operators (Upgrade)			
Train Primary Operator	\$10 000	\$10 000	\$10 000
Plans/Documentation			
Develop Maintenance Management System	\$20 000	\$20 000	\$20 000
Develop Emergency Response Plan	\$15 000	\$15 000	\$15 000
Implement confined space entry program for wastewater system including preparation of confined space hazard assessment and written confined space entry procedures (must be prepared by a qualified person)	\$5 000	\$5 000	\$5 000
Engineering and Contingency			
Total	\$50 000	\$50 000	\$50 000

Community System Photos

Lagoon



Lift Station



Annual Inspection

Annual Inspection NAK AZDLI Community Sewage Collection & Treatment System Sys

1 0 General Information

Band name Nakazdli **Band Number** 614 **WATERS #** 7583

Population served 670 **No of connections** 250 **Population not served**

Inspection Date 2010/08/11 **Period being reported** 2009/01/01 to 2009/12/31

Name of inspector Green Ron

Operating authority

Operator(s) or other person(s) interviewed (name / title)
Bruce Prince

Collection ☐ Trucked ☒ Gravity Piped ☐ Low Pressure Piped

Treatment system type **Level of treatment**

Receiver Necoslie River (MTA)

Discharge Frequency

Annual Inspection

3 0 System Maintenance and Operations

3 1 Maintenance

- 1a Is there a functional maintenance management plan (MMP) for the wastewater system?
☐ Yes ☒ No
- 1b If no what is the target date? unknown
- 2 Are maintenance activities scheduled and performed?
☒ Yes ☐ No
- 3 Is there an annual budget allocated by the band for day to day operation and maintenance (not major capital) costs of the water system?
☒ Yes ☐ No
- 4 Is the operator involved in budget preparation for operations and maintenance?
☒ Yes ☐ No
- 5 Is the operator involved in tracking billing and expenditures related to the system?
☐ Yes ☒ No
- 6 Does the budget appear to be adequate for normal operation and maintenance for this system?
☒ Yes ☐ No
- 7 Is there a responsible and qualified party to ensure that operations and maintenance work is being undertaken?
☒ Yes ☐ No
- 8 Are records kept of system repairs and upgrades and their cost?
☒ Yes ☐ No
- 9 Are instruments and equipment calibrated on an appropriate schedule and used for their intended purpose?
☐ Yes ☐ No
- 10 State the number and percent of outstanding health and safety projects (ACRS Group 2 Type 1) addressed for the year under review
Please refer to Annex A Table 1
- 11 Summarize the status of ACRS health and safety projects
Please refer to Annex A Table 1
- 12 Estimate the Operations and Maintenance effort
☐ Non existent
☐ Substandard
☒ Acceptable
☐ Exemplary

Annual Inspection

3.2 Operations

1 Is there a current copy of standard operating procedures (SOPs) on site?

☐ Yes ☒ No

2 Are there adequate quantities of treatment chemicals on site?

☐ Yes ☐ No

3 Are treatment chemicals stored properly?

☐ Yes ☐ No

If no describe

4 Were any work related health and safety issues observed (not including confined spaces)?

☒ Yes ☐ No

If yes describe At time of site visit there is no available confined space hazard assessment and written confined space entry procedures

5 Are there any worker compensation safety issues that need to be addressed?

☒ Yes ☐ No

If yes describe See above work related health and safety issues

6 Are there any significant changes to the plant since the last inspection?

☐ Yes ☒ No

If yes describe

7 Are all major components of the system operating?

☒ Yes ☐ No

If no describe

3.3 Testing and Record Keeping

1 Is adequate water quality testing equipment available?

☐ Yes ☐ No

2 Are records being kept of daily meter readings for water volume flow rate?

☐ Yes ☒ No

3 Are records kept of operational problems (power failures dose pump failures low chlorine residual high turbidity etc) and the actions that were taken to resolve the problem?

☒ Yes ☐ No

4 Were anomalies and missing records properly explained (ex operator away on sick leave)?

☐ Yes ☐ No ☒ Not applicable

5 Are there records that should have been kept but were not?

☐ Yes ☒ No

If yes

Annual Inspection

3.4 System Classification and Operator Training

1.2 Treatment plant and collection classification

	Treatment	Collection	
MTA	<input checked="" type="radio"/>		Wastewater is treated by a Municipal Transfer Agreement
Small System	<input type="radio"/>	<input type="radio"/>	
Level I	<input type="radio"/>	<input checked="" type="radio"/>	
Level II	<input type="radio"/>	<input type="radio"/>	
Level III	<input type="radio"/>	<input type="radio"/>	
Level IV	<input type="radio"/>	<input type="radio"/>	

3 Primary Operator

Is there a primary operator?

☒ Yes ☐ No

3a Primary Operator certification

A copy of the certification must be made available to the inspector

	Treatment	Collection
No Certification	<input checked="" type="radio"/>	<input type="radio"/>
Small System	<input type="radio"/>	<input type="radio"/>
Level I	<input type="radio"/>	<input type="radio"/>
Level II	<input type="radio"/>	<input type="radio"/>
Level III	<input type="radio"/>	<input type="radio"/>
Level IV	<input type="radio"/>	<input type="radio"/>

3b If the operator is not certified to the classification level of both the treatment plant and collection system has the Band created a training plan to increase the operators certification to the required levels?

☐ Meets certification ☐ Yes ☐ No ☒ Pending

3c If yes what is the target date

Annual Inspection

4a Is there a backup operator?

☒ Yes ☐ No

4b If no what is the target date to obtain a certified backup operator

4c If yes what is the backup operator certification?

A copy of the certification must be made available to the inspector

	Treatment	Collection
No Certification	<input type="radio"/>	<input type="radio"/>
Small Systems	<input checked="" type="radio"/>	<input type="radio"/>
Level I	<input type="radio"/>	<input type="radio"/>
Level II	<input type="radio"/>	<input type="radio"/>
Level III	<input type="radio"/>	<input type="radio"/>
Level IV	<input type="radio"/>	<input type="radio"/>

4d If the backup operator is not certified to the classification level of both the treatment plant and collection system has the Band created a training plan to increase the backup operators certification to the required levels?

☒ Meets certification or not applicable ☐ Yes ☐ No ☐ Pending

3 6 Circuit Rider Trainer Report

Summarize the previous Circuit Rider Trainer (CRT) report in terms of issues recommendations actions taken and outstanding issues

No Circuit Rider Trainer report was made available during the course of this study

1 How many call outs have been made by CRT 12

2 How many unscheduled emergency visits have been made by CRT 0

3 7 Emergency Response Plan

1a Is there an emergency response plan (ERP) in place?

☐ Yes ☒ No

1b If no what is the target date for an ERP to be prepared? unknown

2 Does the provincial government INAC and HC regional offices have a copy of the ERP?

☐ Yes ☐ No ☒ Not Applicable

3 When was the ERP last updated / reviewed?

Annual Inspection

Annex A

Table 1 Summary of ACRS Health and Safety projects

Asset	Project Description	Status
Reviewed 3 assets 0 projects		

Wastewater Risk Level Evaluation

NAK AZDLI - Community Sewage Collection & Treatment System - Sys

Risk Summary

Once the five main risk category scores have been evaluated for a given system they are then used to determine the system's overall risk ranking. The main risk scores are multiplied by a weighting value and the results are then added to determine the Weighted Risk and Overall Risk.

Some questions (like the failure to meet guidelines) may override the Overall Risk forcing it to be 8 or higher.

	Score	Weight
Effluent Receiver	1	20 /
Design	1	25 /
Operation	6	25 /
Reporting	2	10 /
Operators	5	20 /
Weighted Risk	31	
Overall Risk	31	
Final Risk	31	

The main impact wastewater will have is on the receiving environment. That is why the capacity of the receiving environment to handle any wastewater, the Effluent Receiver risk, is weighed as one of the most important risks. That said, the system itself should mitigate any effects on the environment by treating the wastewater, thus the Design and Operations risk are weighed slightly greater than the Effluent Receiver risk. With respect to reporting, generally, a well-trained operator will be more likely to take appropriate records, thus the reporting risk is secondary to the Operator risk, which is why the Operator risk weighs more than the Reporting risk.

Effluent Receiver Risk Evaluation

The Effluent Receiver risk level measures the risk inherent in the receiving water's ability to deal with wastewater effluent. Note that the ability to treat wastewater effluent to acceptable levels for discharge into the environment is both an aspect of the Design risk (section 2) and Operation risk (section 3). The Effluent Receiver risk is intended to look at the risk that would be posed by a system failure, thereby assuming that untreated wastewater was to enter directly into the environment.

Risk

1.1) Type of Receiving Environment

What type of receiving environment is the treated effluent being discharged into?

- ☐ Large River (bulk flow over 100 m³/min)
- ☐ River (bulk flow 10 to 100 m³/min)
- ☐ Creek (bulk flow under 10 m³/min)
- ☐ Open marine (ocean seaway)
- ☐ Enclosed bay/estuary
- ☐ Lake/reservoir
- ☐ Wetland
- ☐ Sub-surface / ground

Wastewater Risk Level Evaluation

- ☐ Tile field
☐ Evaporation
☒ MTA
☐ Other

Score 1

1 2) Species At Risk

Are there any known species at risk in the receiving environment (as per Species At Risk Act)

- ☐ Within 100m ☐ Within 1km ☐ Within 10km ☐ No ☐ Unknown

Score

1 3) Sensitive Environment

Is the receiving environment sensitive or otherwise defined as protected (conservation area habitat preserve Ontario s RAPs etc)?

- ☐ Yes
☐ No
☐ Unknown

Score

1 4) Human Use of Environment

Is there nearby (within the distance that can be impacted by the effluent) human use of the receiving environment?

- | Within | 100m | 1km | 10km | NO | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---|
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Food source (fishing shellfish harvesting etc) |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Drinking water source |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Swimming or other recreation |

Score

Final Effluent Receiver Risk Score 1

Design Risk Evaluation

The Design risk level is the risk inherent in the design of the treatment system it covers aspects such as the facility the equipment the treatment process and the collection system It deals with the ability and effectiveness of the treatment process to treat the wastewater to the levels required and in the quantity / volume of wastewater produced In other words assuming that the system was operated and maintained perfectly can the system theoretically treat the wastewater to the required levels (whether it actually does or not is a matter of the Operation risk level section 3 to deal with)

Risk

2 1) Initial Design Risk

Start with initial design risk of 1

Initial Design Risk 1

2 2) Meets Applicable Effluent Quality Legislation / Guidelines

Does the system meet the current applicable guidelines such as *Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments* or other legislation?

If there are issues is the system design the cause?

If it is the cause or it is unclear indicate the deficiency here

If it is not the cause then indicate the deficiency in the Operation Risk section

- ☐ The system fails parameters with both high frequency (weekly) and high magnitude
☐ The system fails parameters with either high frequency (weekly) or high magnitude (but not both)

Wastewater Risk Level Evaluation

- ☐ The system fails parameters frequently (weekly) but with low magnitude
- ☐ The system fails parameters occasionally (monthly) but with low magnitude
- ☒ The system meets requirements
- ☐ No data

Score 0

2 3) Meets Applicable Building / System Design Standards

Does the building / system meet the applicable provincial / federal standards or is it capable of meeting the standards

- ☐ Yes the building / system have or are capable of meeting applicable provincial / federal standards
- ☐ No the building / system cannot meet applicable provincial / federal standards

Score

2 4) Waste Management

Is there appropriate management of the waste created by the treatment process?

Example Sludge management and appropriate disposal site

- ☐ Yes the system has appropriate waste management
- ☐ No the system does not have appropriate waste management

Score

2 5) Capacity

- ☐ The system has not exceeded 75 / of its volume capacity and is not within 5 years of its allotted life cycle
- ☐ The system has exceeded 75 / of its volume capacity or is within 5 years of its allotted life cycle

Score

2 6) Flexibility

- ☒ The system was designed with the flexibility to meet future requirements
- ☐ The system was not designed with the flexibility to meet future requirements

Score 0

2 7) System Reliability

Consider the following factors and assign a score

Is there appropriate backup equipment

Reliability of the treatment process

Reliability of the power / backup power supply

Reliability of chemical supplies (are they stored appropriately)

Reliability of the collection system

- ☒ There are no reliability concerns
- ☐ There are minor reliability concerns
- ☐ There are significant reliability concerns
- ☐ There are critical reliability concerns

Score 0

2 8) Design Related Failure to Meet Effluent Quality Guidelines

If applicable is the failure to meet water quality guidelines / legislation due to a design issue (ie the system is incapable of treating wastewater to a sufficient quality even if correctly operated)

- ☐ Yes
- ☒ No

Ok

Wastewater Risk Level Evaluation

2 9) Disinfection of Effluent Water

Does the system include a designed means of disinfecting the treated effluent water?

- ☐ Yes
☒ No

(Override disabled)

2 10) Workplace Health and Safety

Would the facility be considered a dangerous workplace based on appropriate provincial codes

- ☐ Yes
☐ No

Ok
Final Design Risk Score 1

Operation Risk Evaluation

The Operation risk level is the risk inherent in the way the treatment system is being operated. The Operation risk level is meant to account for appropriate operation and maintenance procedures and funding. This risk level is independent of the training and certification of the operator. An untrained operator might be running the system correctly while a trained operator might not. The training and certification of the operators is specifically dealt with in the Operator risk level section (section 5).

Risk

3 1) Initial Operation Risk

Start with initial operation risk of 1

Initial Operation Risk 1

3 2 3 3) Meets Applicable Effluent Quality Legislation / Guidelines

Does the system meet the current applicable guidelines such as *Guidelines for Effluent Quality and Wastewater Treatment at Federal Establishments* or other legislation?

If there are issues, is the system operation the cause?

If it is the cause, or it is unclear, indicate the deficiency here.

If it is not the cause, then indicate the deficiency in the Design Risk section.

- ☐ The system fails parameters with both high frequency (weekly) and high magnitude
☐ The system fails parameters with either high frequency (weekly) or high magnitude (but not both)
☐ The system fails parameters frequently (weekly) but with low magnitude
☐ The system fails parameters occasionally (monthly) but with low magnitude
☒ The system meets requirements
☐ No data

Score 0

3 4) Operations and Maintenance Procedures

Does the system have appropriate Operations and Maintenance (O&M) procedures?

- ☐ An approved O&M manual exists and is being used (as apparent by operator logs)
☐ An unapproved (generic) O&M manual exists and is being used (as apparent by operator logs)
The manual is not system specific and does not take all activities for the system into account
☐ An approved O&M manual exists but it is not being used (or cannot be proven because of lack of operator logs)
☒ The system does not have an O&M manual

Score 3

Wastewater Risk Level Evaluation

3 5) Emergency Response Plan

Does the system have an appropriate Emergency Response Plan (ERP)?

- ☐ An approved ERP exists and is being used
- ☐ An approved ERP plan exists but it is not being used
(not being updated or reviewed by operators no proof in activity logs)
- OR
- ☐ An unapproved ERP exists
- ☒ No ERP plan exists

Score 2

3 6) General Maintenance

In general is appropriate maintenance being performed on the system?

This score is obtained by regular inspections of the system and verification of operator activity logs

- ☒ Maintenance has been adequately performed
- ☐ Maintenance is performed but it is not up to par
- ☐ Little or no Maintenance is performed

Score 0

3 7) Maintenance Logs

Are there adequate maintenance logs?

- ☒ Yes
- ☐ No

Score 0

3 8) Operation Related Failure to Meet Effluent Quality Guidelines

If applicable is the failure to meet effluent water quality guidelines / legislation due to misuse / non use of the system (ie the system is capable of treating wastewater to a sufficient quality if correctly operated)?

- ☐ Yes
- ☒ No

Ok

3 9) Operator Activity Logs

Are operation logs kept up to date and can be used as proof or to review activities?

- ☒ Yes
- ☐ No

Ok

Final Operation Risk Score 6

Reporting Risk Evaluation

The Reporting risk level is the risk inherent with the operational method of recording data and providing the required reports. This would include both manual and automated methods of record keeping. Although technically part of the operations of the system, Reporting has been separated into its own risk category: an operator might run the system correctly but make no reports, while one can provide data on effluent water quality but not do any of the proper operation or maintenance of the system.

The Reporting risk ranking is based on the adequacy of the operational records and the number of reports submitted during the year compared to the total number of records and reports required according to the appropriate legislation, standards, and operation procedures of the system in question (as determined by the system's operation and maintenance manual).

Wastewater Risk Level Evaluation

Risk

4 1) Record Keeping

Indicate the level of record keeping being performed

Consistent Records

The operator has consistently taken the appropriate records and provided appropriate reports as required throughout the year

The operator has managed to record / submit 81 % to 100 / of required records and reports

- ☐ 95 / of records
☒ Over 90 / of records
☐ Over 85 / of records
☐ Over 80 / of records

Inconsistent Records

The operator is inconsistently taking records or submitting their reports throughout the year

- ☐ Over 70 / of records
☐ Over 60 / of records
☐ Over 50 / of records

Improper Records

The operator is recording or submitting less than 50 / of the required records and reports

- ☐ Over 40 / of records
☐ Over 25 / of records
☐ Less than 25 / of records

Score 2

4 2) Poor Records for Key Parameters

Are any key parameters measured inconsistently or not at all? (examples of key parameters include BOD TSS nutrients etc)

- ☐ Yes
☒ No

Score 0

4 3) SCADA Records

If a SCADA system is used do the QA/QC records indicate that all required calibration and monitoring is being performed to ensure that data recorded by the SCADA is accurate?

- ☐ Yes
☐ No

Score 0

4 4) False Records

Have any records been intentionally falsified?

- ☐ Yes
☒ No

Ok

Final Reporting Risk Score 2

Wastewater Risk Level Evaluation

Operator Risk Evaluation

The Operator risk level is the potential risk inherent in the operator's training and experience to operate and maintain the facility in an appropriate and safe manner. Note that this risk ranking deals specifically with training and certification of the operator only; the actual habits and work procedures of the operators has already been accounted for in the Operations risk level and Reporting risk level. In other words, the Operator risk level broadly represents the knowledge and understanding of the operators.

A system that is under the control of operators certified to the level of the system and that has backup operators that are certified receives the lowest risk ranking (Risk level 1) while a system that does not have any operators at all would receive the highest risk ranking (Risk level 10).

Risk

5.1) Primary Operator

Indicate the certification / training of the primary operator

- ☐ **Fully Certified** The primary operator is certified to the level of the system
- ☐ **Certified 1 level** The primary operator is certified but at one level below the level of the system
- ☐ **Certified 2 level** The primary operator is certified but at two levels below the level of the system
- ☒ **Certified 3 level** The primary operator is certified but at three levels below the level of the system
- OR
- ☐ **Trained 2+ years** The primary operator is uncertified but trained and has 2+ years experience
- ☐ **Trained 2 years** The primary operator is uncertified but trained and has less than 2 years experience
- ☐ **Untrained 5+ years** The primary operator is uncertified and untrained but has 5+ years experience
- ☐ **Untrained 5 years** The primary operator is uncertified and untrained and has less than 5 years experience

Score 7

5.2) Supervision

Is the primary operator supervised or otherwise has access to an operator fully trained to the level of the system?

- ☒ Yes
- ☐ No

Score 1

5.3) Backup Operator

Indicate the level of certification / training of the backup operator

- ☒ The backup operator is certified (does not have to be to the systems level)
- ☐ The backup operator is uncertified but trained
- ☐ There is no backup operator or the backup operator is untrained

Score 2

5.4) Enrolled in Training

Is the primary operator enrolled in training?

- ☐ The primary operator is enrolled in a training program to achieve certification or upgrade / maintain their skills
- ☒ The primary operator is not enrolled in training

Score 0

Wastewater Risk Level Evaluation

5.5) Primary Operator Certification for Collection System

Indicate the level of certification / training of the primary operator for the collection system

- ☐ Certified with respect to collection system at any level
OR
Uncertified but has sufficient experience / training on the collection system
- ☒ Uncertified and may not have sufficient experience / training on the collection system
- ☐ Uncertified and does not have sufficient experience / training on the collection system

Score 1

Final Operator Risk Score 5

Len Block - RE: Nak'azdli Wastewater improvement project completion review #5694

From "Audrey" <aosterhout@cstc.bc.ca>
To "Len Block" <Len.Block@aandc-aadnc.gc.ca>
Date 4/4/2013 10:28 AM
Subject RE: Nak'azdli Wastewater improvement project completion review #5694
CC "Milton Casey" <Milton.Casey@aandc-aadnc.gc.ca>, <leonat@nakazdli.ca>

Hi Len,

This is correct. The Surplus should be available for the next phase of the sewer project.

Thank you

*Audrey Osterhout, Technical Services Coordinator
 Carrier Sekani Tribal Council
 Technical Services Unit
 200-1460 Sixth Avenue
 Prince George, BC V2L 3N2
 Tel 250 562 6279 ext 237 Fax 250 562 8206*

From Len Block [mailto:Len.Block@aandc-aadnc.gc.ca]
Sent Tuesday, March 26, 2013 9:38 AM
To Audrey
Cc Milton Casey, leonat@nakazdli.ca
Subject Nak'azdli Wastewater improvement project completion review #5694

Hello Audrey

I've reviewed the completion report for this project. The final project costs as indicated in the report are \$285,933. AANDC funding was for \$294,372 leaving a surplus of \$8,439.

These funds will be transferred to the Band's surplus account and should be utilized in any upcoming AANDC supported projects.

Please confirm so this project may be closed.

Regards,

Len Block, P Eng
 Senior Engineer
 Community Infrastructure
 AANDC, BC Region
 600, 1138 Melville St
 Vancouver, B.C. V6E 4S3
 Tel 604-666-5156
 Cell Tel 604-817-1178
 Fax 604-775-7149

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT British Columbia Region

FIRST NATION Nak'azdli

BAND NUMBER 614

PROJECT NAME Improvement Wastewater Collection,
Treatment & Disposal Syst

PROJECT LOG NUMBER 05694

SERVICE CODE 2484

TOTAL PROJECT COST \$903,760

FUNDING LIMIT \$294,372

FUNDED TO DATE \$294,372

CONTINGENCY \$0

FUNDING REQUIRED \$0

SPECIAL NOTES Impro to Village of Ft St James Wastewater System / Band share
25%

LEVEL

Feasibility

☐

Design

☐

Acquisition / Construction

☒

Priority Rating

29

Note A progress report must be provided to DIAND each quarter for projects that are not complete within
90 days of funding

CAPITAL PROJECT SUBMISSION
RECOMMENDED

Senior Capital Advisor

Date _____

CAPITAL PROJECT SUBMISSION
ELIGIBLE

Manager - Special Services

Date _____

D PROFESSIONAL & TECHNICAL SERVICES REVIEW COMMENTS

(a) Water Resources Engineer Signature _____ Date _____

Comments _____

(b) Environmental Engineer Signature _____ Date _____

Comments _____

(c) Elec /Mech Engineer/Architect Signature _____ Date _____

Comments _____

(d) District Engineer Signature ABL Date _____

Comments Project complete Surplus of 8439
sent email to CSTC + Bud L

E PROFESSIONAL SERVICES

Comments _____

Manager, Professional Services

Date

F CPRD REQUEST FROM SPECIAL SERVICES UNIT (SSU)

Request

Review completion report.

Checklist for Post Construction Stage Technical Review**

Project Name _____
CPMS # 5694 Capital Specialist _____

	Omitted	Submitted	Not Applicable
FN Letter of Acceptance	_____	_____	_____
FN Certificate of Completion	_____	_____	_____
Project Expenditure Accounting	_____	_____	_____
• Final Project Costs	_____	_____	_____
• Budget Comparison	_____	_____	_____
• Funding Comparison	_____	_____	_____
CAIS Forms (sealed and signed)	_____	_____	_____
Completion Report	_____	_____	_____
• Project Implementation History	_____	_____	_____
• Project Participants	_____	_____	_____
• Project Milestones	_____	_____	_____
• Field Inspection Report	_____	_____	_____
• Inspection Test Results	_____	_____	_____
• Colour Photographs	_____	_____	_____
• Commissioning Reports	_____	_____	_____
• Warranty Final Inspection Process	_____	_____	_____
• NBC Schedules 'A', 'B' and 'C'	_____	_____	_____
• Fire Commissioner's Final Inspection	_____	_____	_____
• Fuel Tank Registration	_____	_____	_____
• Sealed Record Drawing Prints	_____	_____	_____
• Digital Record Drawings	_____	_____	_____
• Sealed CAIS Forms	_____	_____	_____
• O&M Manual	_____	_____	_____
• Maintenance Management Plan	_____	_____	_____
• Legal Survey Plan	_____	_____	_____
• Registered	_____	_____	_____
• Copies of Permits	_____	_____	_____
• Sealed Professional Certification	_____	_____	_____
Completion Report Filed to Technical Library	_____	_____	_____

PTS Reviewer _____

Date _____

** Checklists are for the use of Professional and Technical Services Directorate [PTS]
Information listed may not all be required or additional information may be required

#851324

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Carrier Sekani Tribal Council

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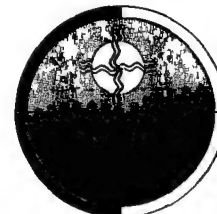
REPLY TO

☒ PRINCE GEORGE OFFICE

1460 6th Avenue
 Prince George B C V2L 3N2
 Phone (250) 562 6279
 Fax (250) 562 8206
 www.cstc.bc.ca

☐ HEAD OFFICE

Wet suwet en First Nation
 PO Box 760
 Burns Lake B C
 V0J 1E0



February 8, 2013

File No 614-01-02

Aboriginal Affairs and Northern Development Canada
 Suite 600 - 1138 Melville Street
 Vancouver, BC
 V6E 4S3

Attention Milton Casey, Capital Specialist

RE COMPLETION REPORT FOR NAK'AZDLI BAND (614) - CPMS 5694

Attached is the Completion Report for Nak'azdli Band's *Wastewater Collection, Treatment & Disposal Improvements - Phase 1 & 2* capital project (CPMS 5694). The Report includes TSU's financial summary, Nak'azdli Band's financial statements including copies of invoices and the Completion Certificate for lagoon upgrade provided by District of Fort St James. This phase of the project is now complete.

Please call me at 250 562 6279 ext 237 or email aosterhout@cstc.bc.ca if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Audrey Osterhout
 Technical Services Coordinator
 Technical Services Unit

attachment

cc Chief and Council, Nak'azdli Band (letter)
 Leona Thomas, CHL Administrator, Nak'azdli Band

21 FEB 12 2013

APPENDIX "A"
FOR PROJECTS UNDER \$1 5 MILLION

PROJECT COMPLETION REPORT

Project Title Wastewater Collection, Treatment & Disposal System Improvements **Project Number** 5694

Location Nak'azdli I R #1/Fort St James, BC **Contract Number** N/A

Project Manager Carrier Sekani Tribal Council - Technical Services Unit

PROJECT DESCRIPTION Band contribution toward joint District of Fort St James/Nak'azdli wastewater system projects

METHOD OF IMPLEMENTATION District of Fort St James managed project

Designed By (Name and Address) N/A - See synopsis

Contractor (Name and Address) N/A - See synopsis

Project Management By (Name and Address) (for Band) CSTC, Technical Services Unit
200 - 1460 Sixth Avenue, Prince George, BC V2L 3N2

Construction Inspection By (Name and Address) N/A - See synopsis

PROJECT MILESTONES

DATES

Design Completed N/A

Project Approved 10/16/01 **Funding Approved** 1/18/02

Contract Awarded N/A

Construction **Start-up** N/A **Completion** N/A

Record Drawings Completed 4/20/10

Operation and Maintenance Manual Completed N/A (MTSA - Maintained by District of Fort St James)

Completion Certificate 08/17/08

NAK'AZDLI BAND (614)
WASTEWATER COLLECTION, TREATMENT & DISPOSAL SYSTEM
IMPROVEMENTS (CONTRIBUTION) (CPMS #5694)
Completion Report Attachment

PROJECT SYNOPSIS

The Nak'azdli Band's main community is located adjacent to and in the District of Fort St James (District) approximately 100 miles from Prince George. Nak'azdli's resident population is approximately 696 (Dec 2011). Wastewater collection, treatment and disposal is supplied by the District to the Band under an agreement for the lagoon area lease. During the development of the Wastewater Collection, Treatment and Disposal Services MTSA, upgrades were identified in a feasibility study completed by Dayton & Knight Engineering for the District. Compiled within this project are four (4) components which the Band contributed to as follows:

1 Debt Retirement:

The District incurred a \$1.0 m debt in 1984 for system improvements. The Band Council agreed to make a one-time capital contribution for past improvements (BCR #121900). It had been determined through the MTSA process that the Band's portion would be 25% based upon population served (established in CPMS #2283) and a payment of \$104,904.28 was made to the District.

2 Sewage Treatment Pre-Design/Design:

The Band Council supported the District's initiative of undertaking upgrades to the aeration system recommended by Dayton & Knight Engineering. In order to alleviate delays the Band Council agreed to pay for design costs which would represent their portion of costs for this project.

3 Phase 1

Phase 1 of the work was completed in 2005/06 consisting of replacement of Blowers, sludge sampling and misc. costs, project management and design adjustments. Payment was made to the District for this phase in April 2007.

4 Phase 2

Phase 2 of the work included Septage Receiving Station, cell 1 & 2 desludging and aeration of cells 1 & 2. Payment was made to the District for this phase of work in September 2010.

Completion Certificate and as-built drawings were received in April 2010. A submission for Phase 3 which will include desludging of cell 3 and new aeration for cells 3 & 5 will be made once both the Band Council and District agree upon future MTSA and lease agreement cost formula. This project is now complete.

COST BREAKDOWN**ORIGINAL ESTIMATE****FINAL COST**

Past Improvements - Debt Retire	\$83,799 00	\$83,799 00
Lagoon Assess / Chlorine Contact Chamber Expansion	\$21,105 28	\$21,105 28
Sewage Treatment Pre-Design/Des	\$110,250 00	✓ \$79,512 87
Project Management	\$5,519 00	\$5,119 00
Other - Phase 1 Improvements	\$39,189 44	✓ \$36,774 99
Other - Phase 2 Improvements	\$121,737 50	✓ \$59,621 44
Total	\$381,600 22	\$285,932 58

* See attached Band financial statements

PROJECT SYNOPSIS (use additional page if necessary)

* See attached page

AANDL funded
294,372
- 285,933
= 8439

Statement by Qualified Professional Project Manager / Architect / Engineer

I hereby certify that all the work has been completed according to applicable engineering practice and specifications that the specified codes and standards have been met that all required testing has been carried out in accordance with the project specifications applicable codes and standards and generally accepted procedures and that mitigating measures as identified in the environmental screening report and related environmental assessment documentation have been implemented as necessary and deemed effective

CSTC Technical Services Unit
Professional Designation

Feb 8, 2013
Date

Prepared by Audrey Osterhout

Date

December 1, 2003

Completion Certificate Attached

X

N/A

Field Inspection Reports/Inspection Test Results

N/A

X

Commissioning Report

N/A

X

B.C. Provincial Building Code Building Schedule "C" (signed off as applicable)

N/A

X

Health Canada Inspection Certificate

N/A

X

Fire Commissioner (Labour Canada) Final Inspection Letter

N/A

X

Fuel Tank Registration

N/A

X

As-Built Drawings Attached (signed and sealed print & 3 mil mylar drawings)

X

N/A

O&M Manuals Completed

N/A

X

Capital Asset Inventory System (CAIS) Form

N/A

X

Legal Survey Plan

N/A

X

Wastewater Collection, Treatment & Disposal System Improvements														
Nak'azdli Band														
#5694 614-01-02 PROJECT SUMMARY														
One-time Debt Reduction										\$104,904.28				
Pre-design/Design Cost Estimate										\$110,250.00				
Consultant										\$218,154.28				
Sub-total										\$3,308.00				
3% Mgt. Fee										\$218,462.28				
Total budget										\$218,462.00				
Funded 1/18/2002										\$75,910.00				
2008										\$294,372.00				
Supplier	Comment	Activity	Inv #	CSTC TSU	DFSJ	D&K	Misc	Invoice Amount	Funds Rec'd	Total	Yr	Stmnt Bal	Exp	
Budget										\$218,462.00	02	-0.28	\$104,904.28	
District of FSJ		Debt reduction		\$104,904.28		\$104,904.28		\$104,904.28		02		\$104,904.28		
D&K		to Apr 30	34193			\$1,194.27		\$1,194.27		\$108,088.55	03			
D&K		to May 31	34380			\$1,422.52		\$1,422.52		\$107,521.07	03			
D&K		to June 30	34588			\$1,571.19		\$1,571.19		\$109,082.26	03			
D&K		to Aug 31	34879			\$1,024.47		\$1,024.47		\$110,116.73	03			
D&K		to Sept 30	35098			\$2,444.88		\$2,444.88		\$112,561.61	03			
CSTC	3% Proj Mgt			\$3,308.00				\$3,308.00		\$115,869.61	03			
D&K		to Nov 30	35598			\$590.00		\$590.00		\$116,459.61	03			
D&K		to Jan 31/03	35933			\$1,697.50		\$1,697.50		\$118,157.11	03			
D&K		to Feb 28/03	36167			\$5,735.24		\$5,735.24		\$123,892.35	03			
D&K		to Mar 31/03	36412			\$5,253.41		\$5,253.41		\$129,145.76	04			
D&K		to Apr 30/03	36655			\$2,041.39		\$2,041.39		\$131,187.15	04			
D&K		to May 31/03	36831			\$5,270.53		\$5,270.53		\$136,457.68	04			
D&K		to June 30/03	37079			\$13,450.38		\$13,450.38		\$149,908.06	04			
D&K		to July 31/03	37287			\$6,165.46		\$6,165.46		\$156,073.52	04			
D&K		to Aug 31/03	37548			\$3,722.11		\$3,722.11		\$159,795.63	04			
Jazz Plumbing							\$9,466.70	\$9,466.70		\$169,262.33	04			
D&K		to Sept. 30/03	37881			\$8,790.76		\$8,790.76		\$178,053.09	04			
D&K		to June 30/04	38891			\$16,128.25		\$16,128.25		\$194,181.34	05			
D&K		to July 31/04	38788			\$676.55		\$676.55		\$194,857.89	05			
D&K		to Aug 31/04	38882			\$599.21		\$599.21		\$195,457.10	05			
D&K		to Dec 31/04	40894			\$1,734.75		\$1,734.75		\$197,191.85	05			
										\$197,191.85	06			
Jazz Plumbing							-\$9,466.61			\$197,191.85	07			
District of 2005 Upgrade-Blowers														
FSJ Nak paid full invoice 4/3/2007														
				1414		\$36,774.99		\$36,774.99	pd 3/28/07	\$233,966.84	07			
										\$233,966.84	08			
INAC Funding 2008 / 08										\$75,910.00	\$233,966.84	09		
Budget Adjustment funding correction 4/01/2009 Posting Error??? (water?)										2249.74	\$233,966.84	09		
											\$233,966.84	10		
CSTC	bal Proj Mgt 3%	3/31/2008	rw Summary 31	\$1,811.00				\$1,811.00		\$235,777.84	08			
District of FSJ				9/15/2010	1906	\$59,621.44		\$59,621.44	pd 3/28/09	\$295,399.28	11			
2/1/2013										2249.74	\$295,399.28			
										-\$9,466.61	\$285,932.67			
Spent to date										D&K \$5,119.00 \$201,300.71 \$79,512.87 \$0.09 \$285,932.67 \$294,372.00	Total Exp.	\$285,932.67		


Audrey

From [REDACTED]
Sent Tuesday, February 05 2013 3 54 PM
To [REDACTED]
Cc [REDACTED]
Subject Capital project schedules
Attachments Nak'azdli Indian Band Capital Project Schedule - summary.xlsx
Audrey –

Please find attached the following capital project schedules

- Roads and drainage upgrade project – department 630
- Wastewater collection / treatment – department 632

As per our meeting last Thursday, we have made adjustments to the schedules to reflect items which had been either included, or excluded in error as follows

- Roads and drainage upgrade project – department 630
 - invoices totaling \$59,621.44 of expenditures has been recorded in the 2011 year end
 - as was requested, we have included the 2013 year end estimated expenditures
- Wastewater collection / treatment – department 632
 - the opening deficit has been removed from the 2002 year end as it related to the construction of the Band office
 - an invoice for \$9,466.61 which was incorrectly included in the general ledger during the 2004 year end has been removed from the expenditures for that year
 - in 2007 the revenue was overstated by \$16,523.61 an adjustment for \$9,466.61 to reverse (unsuccessfully) the invoice incorrectly posted in 2004 and an adjustment to remove the incorrect revenue accrual of \$7,057. The total revenue recorded from 2002 to 2007 now reflects the total on the confirmation from INAC in 2002 of \$218,462
 - an invoice of \$2,219.71 was removed from the 2008 year end expenditures as it related to the drinking water safety program
 - an invoice of \$1,811 was recorded in the 2008 year end expenditures as it related to project management costs
 - invoices totaling \$59,621.44 of expenditures has been recorded in the 2011 year end

As has been explained previously and was explained again at our meeting last week, Public Sector Accounting Standard (which First Nations are required to report in compliance with) require under section 3150 (Tangible Capital Assets) that capital assets be capitalized. As you can imagine this poses some additional problems with respect to tracking the capital projects to ensure that funding is appropriately utilized. One result of this section is that you will never be able to tie funding and expenditures directly into programs or departments on a go forward basis, the best you could hope for would be to track the expenditures in a separate asset account on the balance sheet on a go forward basis.

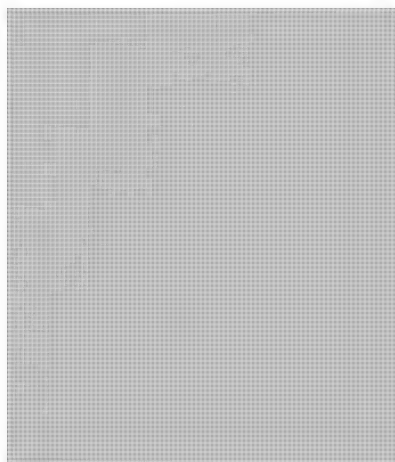
Had the projects above been tracked on a more timely basis we would not at this point be going back to

2/6/2013

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2002 to verify that costs were appropriately charged to a project. There is little point in the Nak'azdli Band making adjustment to the general ledger for the changes indicated above, they are neither material nor timely and will not be allowed for audit purposes – the attached schedules should provide enough support for the costs incurred towards the projects indicated.

If AANDC has further questions – please have them contact me directly



Any tax advice herein is based on the facts provided to us and on current tax law including judicial and administrative interpretation. Tax law is subject to continual change, at times on a retroactive basis and may result in incremental taxes, interest or penalties. Should the facts provided to us be incorrect or incomplete or should the law or its interpretation change, our advice may be inappropriate. We are not responsible for updating our advice for changes in law or interpretation after the date hereof. The advice or other information provided herein is confidential and may be privileged and is for the sole use of KPMG's client. The advice is based on the specific facts and circumstances and the scope of KPMG's engagement and associated terms of engagement as the case may be and is not intended to be relied upon by any other person. KPMG disclaims any responsibility or liability for any reliance that any person other than the client may place on this advice. If you are not the intended recipient, any disclosure, copying, distribution or any action taken or omitted to be taken in reliance on it, is prohibited and may be unlawful.

**NAK AZDLI INDIAN BAND
CAPITAL SPENDING
SUMMARY**

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Wastewater Collection / Treatment Dept 632	2012 Actual	2011 Actual	2010 Actual	2009 Actual	2008 Actual	2007 Actual	2006 Actual	2005 Actual	2004 Actual	2003 Actual	2002 Actual
Revenue											
INAC Contribution funding					\$ 75 910 00	\$ 21 270 24		\$ 19 138 78	\$ 54 161 00	\$ 18 988 00	\$ 104 904 00
Contribution funding wastewater collection / treatment	\$	\$	\$	\$							
Other revenue											
					75,910 00	21 270 24		19,138 78	54 161 00	18 988 00	104,904 00
Expenditure											
Engineering architect and consulting fees		59 621 44				38 774 99		19 138 78	44 694 13	18 988 07	104 904 28
Project management fees					1 811 00						
		59,621 44			1,811 00	38,774 99		19,138 78	44,694 13	18,988 07	104,904 28
Excess of revenue over expenditure		(59 621 44)			74 099 00	(15 504 75)			9 466 87	(0 07)	(0 28)
Deficit, beginning of year	8 439 33	68 080 77	68 080 77	68 080 77	(6 038 23)	9 466 52	9 466 52	9 466 52	(0 35)	(0 28)	
Deficit, end of year	\$ 8 439 33	\$ 8,439 33	\$ 68,080 77	\$ 68 080 77	\$ 68,080 77	\$ (6,038 23)	\$ 9 466 52	\$ 9,466 52	\$ 9,466 52	\$ (0 35)	\$ (0 28)

NAKAZDI INDIAN BAND (00/01)

Attagio Ledger - Detail Listing

Calculated as of 01-Mar-31

Sort order: Account, department, fiscal period, source code, date, description

Selection: All accounts

Department [632] to [632]

All fiscal periods for year 2001

Options: Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 92

Pd Source	Date	Description	Reference	Units	Debits	Credits	Net Posted Balance
3000		632 CAPITAL (OFFICE BLDG) SUR/DEF					624,409.29
1 GL JE	02/28/2001	1999/00 SUR/DEF REALLOCATIO	REALLOCATE			624,409.29	-624,409.29
1 transaction(s) printed				Account Net Change	0.00	624,409.29	-624,409.29
1 account(s) printed				Account Balance		0.00	
3900		632 REVENUE - MISCELLANEOUS					0.00 *
				Account Balance		0.00	
5200		632 MATERIALS AND SUPPLIES					0.00 *
				Account Balance		0.00	
5400		632 ARCHITEC, ENGINEER, CONSULTANT					0.00 *
				Account Balance		0.00	
5410		632 CONTRACT - MATERIALS					0.00 *
				Account Balance		0.00	
5420		632 CONTRACT - LABOUR					0.00 *
				Account Balance		0.00	
8900		632 CAPITAL EXPENDITURES					0.00 *
				Account Balance		0.00	
9000		632 TRANSFER TO/FROM					0.00 *
				Account Balance		0.00	
1 transaction(s) printed				Report Net Change	0.00	624,409.29	-624,409.29
8 account(s) printed				Report Balance		0.00	

NAKAZOLINDIAN BAND (01/02)

Adagio Ledger - Detail Listing

Calculated as of Mar 31 2002

To Information Act

May 04 2012

Communication de l'Accès à

Page 1 of 1

Loi sur l'accès à
l'information

Sort order: Account, department, fiscal period, source code, date, description

Selection All accounts
Department [632] to [632]
All fiscal periods for year 2002Options Include inactive accounts, include accounts with no activity
Include prior year postings
Show primary description
Show units

Highest posting sequence 115

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted/ Balance
3000			632 WASTEWATER TRMT/DISP SUR/DEF					0 00 *
Account Balance							0.00	
3100			632 REVENUE - FTA CAPITAL					0 00 *
Account Balance							0.00	
3500			632 DIA - TARGETED FUNDING					0 00
11	GL-DE	02/28/2002	PROJECT 5694	INAC		218 462 00		218,462 00
Balance							218,462 00	
12	GL-JE	03/31/2002	TO RECORD BOOKKEEPING FEE REVENUE			113,558 00		113 558 00
2 transactions(s) printed						Account Net Change	113,558 00	218,462 00
1 account(s) printed							104,904 00	
Account Balance							104,904 00	
3900			632 REVENUE - MISCELLANEOUS					0 00 *
Account Balance							0.00	
5200			632 MATERIALS AND SUPPLIES					0 00 *
Account Balance							0.00	
5400			632 ARCHITEC, ENGINEER, CONSULTANT					0 00 *
Account Balance							0.00	
8700			632 MTSA DEBT RETIREMENT					0 00
12	AP MC	03/28/2002	27 40 6 DISTRICT OF F	PROJ-5694		104,904 28		104,904 28
1 transactions(s) printed						Account Net Change	104,904 28	0.00
1 account(s) printed							104,904 28	
Account Balance							104,904 28	
8900			632 CAPITAL EXPENDITURES					0 00 *
Account Balance							0.00	
9000			632 TRANSFER TO/FROM					0 00 *
Account Balance							0.00	
3 transaction(s) printed						Report Net Change	218,462 28	218,462 00
9 account(s) printed							0 28	
Report Balance							0.28	

Sort order Account, department, fiscal period, source code, date, description

Selection All accounts

Department [632] to [632]

All fiscal periods for year 2003

Options Include inactive accounts, include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 126

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted Balance
3000			632 WASTEWATER TRMT/DISP SUR/DEF					0 28
12	GL JE	03/31/2003	SURPLUS TRANSFERS	AUDIT #3		625,919 34		625,919 34
			1 transactions(s) printed	Account Net Change		625,919 34	0 00	625,919 34
			1 account(s) printed	Account Balance				625,919 62
3100			632 CFNFA FUNDING					0 00 *
			Account Balance					0 00
3500			632 DIA TARGETED FUNDING					0 00
12	GL-JE	03/31/2003	2002/03 DEFERRD REVENUE	PROJECT 5694			18 988 00	-18 988 00
			1 transactions(s) printed	Account Net Change		0 00	18,988 00	18,988 00
			1 account(s) printed	Account Balance				18,988 00
3900			632 REVENUE - MISCELLANEOUS					0 00 *
			Account Balance					0 00
5200			632 MATERIALS AND SUPPLIES					0 00 *
			Account Balance					0 00
5400			632 ARCHITEC ENGINEER, CONSULTANT					0 00
2	AP-IN	05/03/2002	17- 17- 221 DAYTON & KNIG	34193		1,194 27		
2	AP-IN	05/21/2002	60 57 43 CARRIER SEKAN	34193		1,194 27		2,388 54
			Balance					2,388 54
3	AP-MC	06/28/2002	1 2 71 DAYTON & KNIG	34380		1,422 52		1 422 52
			Balance					3,811 06
4	AP-IN	07/04/2002	17 17 222 DAYTON & KNIG	34568		1,571 19		1 571 19
			Balance					5,382 25
6	AP-IN	09/05/2002	17 17- 220 DAYTON & KNIG	24879		1,024 47		1 024 47
			Balance					6,406 72
7	AP IN	10/02/2002	17 17 73 DAYTON & KNIG	35098		2,444 88		2 444 88
			Balance					8,851 60
9	AP-IN	12/03/2002	24- 26 84 DAYTON & KNIG	35596		590 00		
9	GL-JE	12/31/2002	CSTC REFUND CHQ #16724	REALLOCATE			1 194 27	-604 27
			Balance					8,247 33
12	AP-IN	03/04/2003	33- 35- 244 DAYTON & KNIG	36167		5 735 24		
12	AP-MC	03/04/2003	55 73 4 DAYTON & KNIG	35933		1,697 50		
12	GL-JE	03/31/2003	CSTC PROJECT MGMT FEES AC	PROJECT 5694		3 308 00		
12	GL JE	11/25/2003	CSTS MANAGEMENT FEES	reallocate		3 308 00		
12	GL-JE	11/25/2003	double posted	reverse			3 308 00	10 740 74
			13 transactions(s) printed	Account Net Change		23,490 34	4,602 27	18,888 07
			1 account(s) printed	Account Balance				18,888 07

NAKAZDI INDIAN BAND (02/03)

Adaplo Ledger Detail Listing

Calculated as of Mar 31 2003

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Page 2 of 2

Pa	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted / Balance
----	--------	------	-------------	-----------	-------	--------	---------	----------------------

8700			632 MTSA DEBT RETIREMENT					0 00 *
------	--	--	--------------------------	--	--	--	--	--------

Account Balance

0 00

8900			632 CAPITAL EXPENDITURES					0 00 *
------	--	--	--------------------------	--	--	--	--	--------

Account Balance

0 00

9000			632 TRANSFER TO/FROM					0 00 *
------	--	--	----------------------	--	--	--	--	--------

Account Balance

0 00

15 transaction(s) printed

9 account(s) printed

Report Net Change

649,409 65

23,490 27

625,919 41

Report Balance

625,919 69



Dayton & Knight Ltd.

CONSULTING ENGINEERS

PO BOX 91247 (612 CLYDE AVENUE) WEST VANCOUVER BRITISH COLUMBIA CANADA V7V 3N9
 TELEPHONE (604) 922 3255 FAX (604) 922 3253 E MAIL dkeng@dayton knight com WEB www dayton knight com

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Invoice number 34193

May 3, 2002

Page number 1

Nak'azdli Band
 c/o Carrier Sekani Tribal
 #200, 1460 - 6th Avenue
 Prince George, B C V2L 3N2

Attn Mr Joel Barkman, P Eng

Professional Services to April 30, 2002

Fort St. James Aerated Lagoon Upgrade
 Project No 403 1

Professional Services

Hours	Rate	Amount
8 50	115 00	977 50
8 50		977 50

John W C Boyle, P Eng

Services Total

Disbursements

Cost	Mult	Amount
187 67	1 05	197 05
18 78	1 05	19 72
Disbursement Total		216 77

Airfare
 Parking

Total Amount Due 1,194 27

Certified Correct, /

** Backup for Disbursements is Available Upon Request **



Dayton & Knight Ltd.

CONSULTING ENGINEERS

PO BOX 91247 (612 CLYDE AVENUE) WEST VANCOUVER BRITISH COLUMBIA CANADA V7V 3N9
 TELEPHONE (604) 922 3255 FAX (604) 922 3253 E MAIL dkeng@dayton knight com WEB www dayton knight com

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Invoice number 34380
 June 5, 2002
 Page number 1

Nak'azdli Band
 c/o Carrier Sekani Tribal
 #200, 1460 - 6th Avenue
 Prince George, B C V2L 3N2

Attn: Mr Joel Barkman, P Eng.

Professional Services to May 31, 2002

Fort St James Aerated Lagoon Upgrade
 Project No 403 1

Professional Services

John W C Boyle, P Eng
 Ho-ping Wei, P Eng

Services Total

Hours	Rate	Amount
2 00	115 00	230 00
14 00	85 00	1,190 00
16 00		1,420.00

Disbursements

Long Distance Charges

Cost	Mult	Amount
2 40	1 05	2 52
Disbursement Total		2 52
Total Amount Due		1,422 52

Certified Correct,

** Backup for Disbursements is Available Upon Request **



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PO BOX 91247 (612 CLYDE AVENUE) WEST VANCOUVER BRITISH COLUMBIA CANADA V7V 3N9
 TELEPHONE (604) 922 3255 FAX (604) 922 3253 E MAIL dkeng@dayton knight com WEB www dayton knight com

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Invoice number 34568
 July 4, 2002
 Page number 1

Nak'azdli Band
 c/o Carrier Sekani Tribal
 #200, 1460 - 6th Avenue
 Prince George, B C V2L 3N2

Attn. Mr Joel Barkman, P Eng

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Professional Services to June 30, 2002

Fort St James Aerated Lagoon Upgrade
 Project No. 403 1

Professional Services

	Hours	Rate	Amount
John W C. Boyle, P Eng	1 50	115 00	172 50
Ho-ping Wei, P.Eng.	3 00	85 00	255 00
Services Total	4 50		427 50

Disbursements

	Cost	Mult	Amount
Fax 1 fax @ 1.00	1 00	1 05	1 05
Miscellaneous (DO Meter for study)	1,087 07	1 05	1,141 42
Long Distance Charges	1 16	1 05	1 22
Disbursement Total			1,143 69

Total Amount Due 1,571 19

Certified Correct,
 Dayt

John

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September 5, 2002

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c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn Mr. Joel Barkman, P.Eng.

Professional Services to August 31, 2002

Fort St. James Aerated Lagoon Upgrade
Project No 403.1

Professional Services

Hours	Rate	Amount
1.00	115.00	115.00
3.00	85.00	255.00
4.00		370.00

John W.C Boyle, P.Eng.
Ho-ping Wei, P.Eng.

Services Total

Disbursements

Cost	Mult	Amount
18.49	1.05	19.41
2.00	1.05	2.10
7.62	1.05	8.00
		29.51

Courier
Fax 2 faxes @ 1.00
Long Distance Charges

Disbursement Total

Sub-Consultants

Cost	Mult	Amount
595.20	1.05	624.96
		624.96

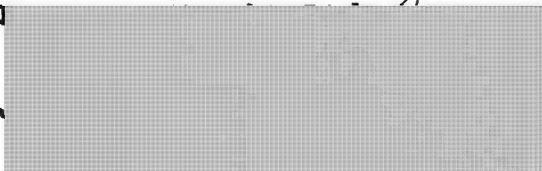
Sub-Consultants
Eco Tech Laboratory Ltd

Sub-Consultant Total

Total Amount Due

1,024.47

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October 2, 2002
Page number 1

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#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr. Joel Barkman, P.Eng.

Professional Services to September 30, 2002

Fort St James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

Hours	Rate	Amount
9.50	60.00	570.00
Services Total	9.50	570.00

Paul O'Callaghan

Sub-Consultants

Cost	Mult	Amount
595.20	1.05	624.96
595.20	1.05	624.96
595.20	1.05	624.96
Sub-Consultant Total		1,874.88

Sub-Consultants
Eco Tech Laboratory Ltd.
EcoTech Laboratory Ltd.
EcoTech Laboratory Ltd.

Total Amount Due 2,444.88

Certified Correct,

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Invoice number 35596

December 3, 2002

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Tribal
Chief

DEC 16 RECD

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Nak'azdli Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn Mr Joel Barkman, P.Eng.

Professional Services to November 30, 2002

Fort St. James Aerated Lagoon Upgrade
Project No 403 1

Professional Services

Hours Rate Amount

John W C Boyle, P Eng.
Paul O'Callaghan

2.00 115.00 230.00
6 00 60.00 360 00

Services Total 8.00 590.00

Total Amount Due 590 00

Certified Correct

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March 4, 2003
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36 MAR 18 2003

Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr Joel Barkman, P.Eng.

Professional Services to February 28, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

	Hours	Rate	Amount
John W.C. Boyle, P.Eng.	8.00	115.00	920.00
Harrington, Brian	48.00	80.00	3,840.00
Roger Warren, P.Eng.	2.00	95.00	190.00
Ela Szpotowicz	12.00	65.00	780.00
Services Total	70.00		5,730.00

Disbursements

	Cost	Mult	Amount
Long Distance Charges	4.99	1.05	5.24
Disbursement Total			5.24
Total Amount Due			5,735.24



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February 4, 2003
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Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr. Joel Barkman, P Eng.

Professional Services to January 31, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403 1

Professional Services

Hours	Rate	Amount
8.50	115 00	977 50
9.00	80.00	720 00
Services Total		1,697.50
Total Amount Due		1,697 50

John W C. Boyle, P Eng.
Harrington, Brian

Certified Correct

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**CARRIER SEKANI TRIBAL COUNCIL
- TECHNICAL SERVICES UNIT**

1460 6th AVE
Prince George B C V2L 3N2
Tel (250) 562 6279
Fax (250) 562-0900

TO **Nak'azdli Band**
P O Box 1329
Fort St James, BC V0J 1P0
FOR Wastewater Collection, Treatment & Disposal (CPMS# 5694)

DATE December 9, 2002
PER _____
FILE NO 614-01-02
PERIOD November 1 - 30

LABOUR	HOURS	RATE	TOTAL
Technical Director	x	\$55 00 / hour	
Draftsperson	x	\$19 00 / hour	
Maintenance Advisor	x	\$29 50 / hour	
EIT Engineer	x	\$29 00 / hour	
Secretarial	x	\$23 50 / hour	
Other Engineer A	x	\$80 00 / hour	
Engineer B	x	\$70 00 / hour	
Proj Coordinator	x	\$35 00 / hour	
Contract Maintenance Advisor - Travel	x	\$37 25 / hour	
Maintenance Advisor - On-site	x	\$45 75 / hour	
Len Thorpe	x	\$40 00 / hour	
Maint Advisor - Emerg Call Out	x	\$51 00 / hour	
SUB TOTAL			\$0 00

DISBURSEMENTS	QUANTITY	RATE	TOTAL
Photocopies	x	\$0 10 / page	
Blue Prints	x	\$0 20 / sq ft	
Mylars	x	\$6 50 / sheet	
Plotting	x	\$2 50 / sheet	
ACAD Computer Time	x	\$5 00 / hour	
Supplies			
Meals & Incidentals			
Mileage	x	\$0 440 / km	
Mileage Sewer Flusher	x	\$0 50 / km	
Accommodations			
Other Reimbursement for	Project Mgt Fees (3%)		
	Sewage Treatment Pre-design/design		\$3,308 00
SUB TOTAL			\$3,308 00

TOTAL (LABOUR & DISBURSEMENTS)

\$3,308 00

NAK'AZDLI BAND COUNCIL (2003/04)
Surplus (Deficit) Statement
As of Mar 31 2004

WASTEWATER COLL/TRMT #5694 632

Revenue

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
DIA TARGETED FUNDING			54 161	(54 161)	(54 161)
Total revenue			54 161	(54 161)	(54 161)

Expenditures

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Expenditures					
ARCHITEC ENGINEER CONSULTAN			54 161	(54 161)	(54 161)
Total expenditures			54 161	(54 161)	(54 161)

Surplus (deficit) prior year (625 920)

Total Surplus (deficit) (625 919)

NAKIAZDL3 BAND COUNCIL (2003/04)

Adagio Ledger Detail Listing

Calculated as of Mar 31 2004

May 04 2012
Page 1 of 2

Sort order Account, department, fiscal period, source code, date, description

Selection All accounts

Department [632] to [632]

All fiscal periods for year 2004

Options Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 142

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted Balance
3000			632 WASTEWATER TRMT/DISP SUR/DEF					0 35
1	GL JE	11/25/2003	CSTS LAST YR EXP-WRONG A/C	REALLOCATE		3 308 00		3 308 00
			Balance					3 308 00
12	GL JE	03/31/2004	DOUBLE POSTED LAST YEAR	REV 81/12			3,308 00	
12	GL-JE	03/31/2004	SURPLUS ACCT ADJMTS	AJE 1		625,919 34		622,611 34
			3 transactions(s) printed	Account Net Change		625,227 34	3,308 00	625,919 34
			1 account(s) printed	Account Balance				625,919 34
3100			632 CFNFA FUNDING					0 00 *
			Account Balance					0 00
3500			632 DIA - TARGETED FUNDING					0 00
8	GL-JE	11/30/2003	DEFERRED REV - WASTWATER T CPMS 5694				41,837 00	-41 837 00
			Balance					-41 837 00
12	GL JE	03/31/2004	DEFERRED REVENUE	CPMS 5694			12,324 00	-12 324 00
			2 transactions(s) printed	Account Net Change		0 00	54,161 00	54,161 00
			1 account(s) printed	Account Balance				54,161 00
3900			632 REVENUE MISCELLANEOUS					0 00 *
			Account Balance					0 00
5200			632 MATERIALS AND SUPPLIES					0 00 *
			Account Balance					0 00
5400			632 ARCHITEC, ENGINEER, CONSULTANT					0 00
2	AP-MC	05/21/2003	DAYTON & KNIGHT	36412		5 253 41		5,253 41
			Balance					5,253 41
3	AP-IN	06/03/2003	1- 1 137 DAYTON & KNIG	36831		5,270 53		
3	AP MC	06/02/2003	DAYTON & KNIGHT	36855		2,041 39		7 311 82
			Balance					12,565 33
4	AP-IN	07/18/2003	5 3- 64 DAYTON & KNIG	5694		13,450 38		
4	AP MC	07/28/2003	9 11- 27 DAYTON & KNIG	37079		13,450 38		26,900 76
			Balance					39,466 09
6	AP-IN	09/03/2003	13 12 19 DAYTON & KNIG	37549		3,722 11		
6	GL-JE	09/30/2003	DAYTON & KNIGHT	REALLOCATE		6,165 46		9,887 57
			Balance					14,353 86
7	AP-IN	10/16/2003	14 15- 22 DAYTON & KNIG	37681		8 790 76		
7	AP IN	10/30/2003	18 17 39 JAZZ'S PLUMBI	03-127		9 466 70		18 257 46
			Balance					57,611 12
8	AP-AD	11/30/2003	7- 8 14 DAYTON & KNIG	8 14			13,450 38	-13,450 38
			10 transactions(s) printed	Account Net Change		57,611 12	13,450 38	54,160 74
			1 account(s) printed	Account Balance				54,160 74

Printed on May 04 2012 at 08:54am by System Account

Detail Listing

A0429740_27-000383

NAKAZDI BAND COUNCIL (2003/04)

Adagio Ledger - Detail Listing

Calculated as of Mar 31 2004

May 04 2012

Page 2 of 2

Pd Source	Date	Description	Reference	Units	Debits	Credits	Net Posted Balance
8700		632 MTSA DEBT RETIREMENT					0 00 *
Account Balance							0.00
8900		632 CAPITAL EXPENDITURES					0 00 *
Account Balance							0.00
9000		632 TRANSFER TO/FROM					0 00 *
Account Balance							0.00
15 transaction(s) printed				Report Net Change	696,836.46	70,919.38	625,919.08
9 account(s) printed				Report Balance			625,919.43



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April 4, 2003
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#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr. Joel Barkman, P.Eng.

Professional Services to March 31, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

John W.C. Boyle, P.Eng.
Harrington, Brian
Kit Szeto

Hours	Rate	Amount
10.50	115.00	1,207.50
32.50	80.00	2,600.00
21.50	65.00	1,397.50
Services Total	64.50	5,205.00

Disbursements

	Cost	Mult	Amount
Fax 2 faxes @ 1.00	2 00	1.05	2.10
11 x 17 14 plots @ 3 00	42.00	1 05	44.10
Long Distance Charges	2.10	1.05	2.21

Disbursement Total 48.41

Total Amount Due 5,253 41

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614-01-02



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June 3, 2003
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#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr. Joel Barkman, P.Eng.

Professional Services to May 31, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

Hours	Rate	Amount
5.00	115.00	575.00
42.25	80.00	3,380.00
.50	65.00	32.50
Services Total	47.75	3,987.50

John W.C. Boyle, P.Eng.
Brian Harrington, P.Eng.
Kit Szeto

Disbursements

Cost	Mult	Amount
31.53	1.05	33.11
Disbursement Total		33.11

Long Distance Charges

Sub-Consultants

Cost	Mult	Amount
595.20	1.05	624.96
595.20	1.05	624.96
Sub-Consultant Total		1,249.92

Sub-Consultants
Eco Tech Laboratory Ltd.
Eco Tech Laboratory Ltd.

Total Amount Due 5,270.53

JUN 18 REC'D



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Invoice number 36655
May 6, 2003
Page number 1

Nak'azdi Band
c/o Carrier Sekani Tribal
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Prince George, B.C. V2L 3N2

Attn Mr. Joel Barkman, P.Eng.

Professional Services to April 30, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

	Hours	Rate	Amount
John W.C Boyle, P.Eng.	2.00	115 00	230.00
Brian Harrington, P.Eng.	7.00	80.00	560.00
Services Total	9.00		790.00

Disbursements

	Cost	Mult	Amount
Long Distance Charges	1.40	1.05	1.47
Disbursement Total			1.47

Sub-Consultants

	Cost	Mult	Amount
Sub-Consultants			
EcoTech Laboratory Ltd.	595.20	1.05	624 96
EcoTech Laboratory Ltd.	595.20	1.05	624.96
Sub-Consultant Total			1,249 92

Total Amount Due 2,041.39

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Invoice number 37079
July 8, 2003
Page number 1

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c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

CS

Attn: Mr. Joel Barkman, P.Eng.

JUL 18 RECD

Professional Services to June 30, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

	Hours	Rate	Amount
John W.C. Boyle, P.Eng.	10 50	115.00	1,207.50
Brian Harrington, P.Eng.	101 50	80.00	8,120.00
Don Curtiss	2.00	65.00	130.00
Jose Ng	53.00	65.00	3,445.00
Louise Williams	1.50	65.00	97.50
Patrick Leong	2.00	65.00	130.00
Angela C. Davies	.50	45.00	22.50
Yvonne Vandermeer	1.00	45.00	45.00
Services Total	172.00		13,197.50

Disbursements

	Cost	Mult	Amount
Photocopy 396 copies @ .05	19.80	1.05	20.79
Courier	23.85	1.05	25.04
Fax 2 faxes @ 1.00	2 00	1.05	2.10
11 x 17 1 plot @ 3.00	3.00	1.05	3.15
8 5 x 11 (black & white) 78 plots @ 2.00	156.00	1.05	163.80
Long Distance Charges	36.19	1.05	38.00
Disbursement Total			252 88

Total Amount Due 13,450 38

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Invoice number 37549
September 3, 2003
Page number 1

Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr. Joel Barkman, P.Eng.

Professional Services to August 31, 2003

Fort St James Aerated Lagoon Upgrade
Project No 403.1

Professional Services

Hours	Rate	Amount
2 00	115 00	230 00
42.00	80.00	3,360 00
44 00		3,590 00

John W C Boyle, P Eng.
Brian Harrington, P.Eng.

Services Total

Disbursements

Cost	Mult	Amount
74.52	1 05	78.25
19.72	1 05	20 71
20 65	1.05	21 68
10 92	1 05	11 47
Disbursement Total		132 11

Accommodations
Film & Development
Parking
Long Distance Charges

Total Amount Due 3,722 11

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SEP 22 2003

Tribal
Chief

SEP 23 2003

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August 6, 2003

Page number 1

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c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn: Mr. Joel Barkman, P.Eng.

Professional Services to July 31, 2003

Fort St. James Aerated Lagoon Upgrade
Project No. 403 1

Professional Services

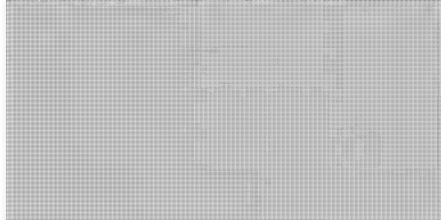
	Hours	Rate	Amount
John W C. Boyle, P.Eng.	15.00	115.00	1,725.00
Brian Harrington, P.Eng.	39.00	80.00	3,120.00
Jose Ng	.50	65.00	32.50
Services Total	54.50		4,877.50

Disbursements

	Cost	Mult	Amount
Accommodations	95.60	1.05	100.38
Airfare	517.50	1.05	543.38
Car Rental	199.34	1.05	209.31
Film & Development	19.72	1.05	20.71
Meals	60.78	1.05	63.82
Mileage 60 kms @ .35	21.00	1.05	22.05
Parking 20 65	20.65	1.05	21.68
22 x 34 27 plots @ 10.00	270.00	1.05	283.50
Long Distance Charges	22.03	1.05	23.13
Disbursement Total			1,287.96

Total Amount Due 6,165.46

Certified Correct.



AFP
8/20/03

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October 7, 2003
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c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C. V2L 3N2

Attn. Mr. Joel Barkman, P.Eng.

Professional Services to September 30, 2003

Fort St James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

	Hours	Rate	Amount
John W C. Boyle, P.Eng.	1.50	115 00	172.50
Brian Harrington, P.Eng.	50.00	80.00	4,000.00
Douglas Rhodes, P.Eng.	2.50	105 00	262.50
Edme Focant, C Tech.	9.00	85.00	765.00
Sekip Okumus, P.Eng.	4.00	90.00	360.00
Don Curtiss	2.50	65 00	162.50
Jose Ng	44.50	65.00	2,892 50
Services Total	114.00		8,615.00

Disbursements

	Cost	Mult	Amount
8 5 x 11 (black & white)			
81 plots @ 2 00	162.00	1.05	170 10
Long Distance Charges	5 39	1.05	5 66
Disbursement Total			175.76

Total Amount Due 8,790 76

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** Backup for Disbursements is Available Upon Request **

NAK'AZDLI BAND COUNCIL (2004/05)
Surplus (Deficit) Statement
As of Mar 31 2005

WASTEWATER COLL/TRMT #5694 632

Revenue

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
DIA - TARGETED FUNDING			19 139	(19 139)	(19 139)
Total revenue			19 139	(19 139)	(19 139)

Expenditures

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Expenditures					
ARCHITEC ENGINEER CONSULTAN			19 139	(19 139)	(19 139)
Total expenditures			19 139	(19 139)	(19 139)

Surplus (deficit) prior year (625 919)

Total Surplus (deficit) (625 919)

Sort order Account, department, fiscal period, source code, date, description

Selection All accounts

Department [632] to [632]

All fiscal periods for year 2005

Options Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 159

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted / Balance
3000			632 WASTEWATER TRMT/DISP SUR/DEF					625,919.43 *
			Account Balance					625,919.43
3100			632 CFNFA FUNDING					0.00 *
			Account Balance					0.00
3600			632 DIA TARGETED FUNDING					0.00
7	AP-MC	10/01/2004	122 180- 9 DAYTON & KNIG	39591/39798		16 804.80		-16 804.80
			Balance					-16 804.80
12	GL-JE	03/31/2005	CPMS 5694 WASTEWATER	DEFERRED RE		2,333.96		2 333.96
			2 transactions(s) printed	Account Net Change		0.00	19,138.76	19,138.76
			1 account(s) printed	Account Balance				19,138.76
3900			632 REVENUE MISCELLANEOUS					0.00 *
			Account Balance					0.00
5200			632 MATERIALS AND SUPPLIES					0.00 *
			Account Balance					0.00
5400			632 ARCHITEC, ENGINEER, CONSULTANT					0.00
7	AP MC	10/01/2004	122- 180 9 DAYTON & KNIG	39591/39798		16 804.80		16 804.80
			Balance					16 804.80
12	AP MC	03/03/2005	148- 227 49 DAYTON & KNIG	39982/40894		599.21		
12	AP-MC	03/03/2005	148 227 49 DAYTON & KNIG	39982/40894		1,734.75		2 333.96
			3 transactions(s) printed	Account Net Change		19,138.76	0.00	19,138.76
			1 account(s) printed	Account Balance				19,138.76
8700			632 MTSA DEBT RETIREMENT					0.00 *
			Account Balance					0.00
8900			632 CAPITAL EXPENDITURES					0.00 *
			Account Balance					0.00
9000			632 TRANSFER TO/FROM					0.00 *
			Account Balance					0.00
			5 transaction(s) printed	Report Net Change		19,138.76	19,138.76	0.00
			9 account(s) printed	Report Balance				625,919.43



Dayton & Knight Ltd.
CONSULTING ENGINEERS
www.dayton-knight.com

612 Clyde Avenue West Vancouver
British Columbia Canada V7T 1C9
Telephone 604-922-3255 • Fax 604-922-3253
E-mail dkeng@dayton-knight.com

Invoice number 39591
July 6, 2004
Page number 1

Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

Attn: Mr. Joel Barkman, P.Eng.

Professional Services to June 30, 2004

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services

	Hours	Rate	Amount
John W.C. Boyle, P.Eng.	17.00	115.00	1,955.00
Brian Grabowski	1.00	60.00	60.00
Brian Harrington, P.Eng.	114.75	90.00	10,327.50
Douglas Rhodes, P.Eng.	4.00	105.00	420.00
Edme Focant, C.Tech.	3.50	85.00	297.50
Sekip Okumus, P.Eng.	3.00	90.00	270.00
Tjandra Tjondrotekodjojo	3.00	63.00	189.00
Don Curtiss	1.00	65.00	65.00
Ela Szpotowicz	1.00	65.00	65.00
Jose Ng	26.00	65.00	1,690.00
Kevin Cheena	1.00	65.00	65.00
Angela C. Davies	3.00	45.00	135.00
Yvonne Vandermeer	2.50	45.00	112.50
Services Total	180.75		15,651.50

Disbursements

	Cost	Mult	Amount
Photocopy 714 copies @ .05	35.70	1.05	37.49
Courier 22 x 34 12 plots @ 10.00	51.81	1.05	54.40
8.5 x 11 (black & white) 92 plots @ 2.00	120.00	1.05	126.00
Long Distance Charges	184.00	1.05	193.20
	62.53	1.05	65.66
Disbursement Total			476.75

** Backup for Disbursements is Available Upon Request **

Invoice number 39591
July 6, 2004
Page number 2

Fort St. James Aerated Lagoon Upgrade

Total Amount Due 16,128.25

Certified Correct.



** Backup for Disbursements is Available Upon Request **



Dayton & Knight Ltd.

CONSULTING ENGINEERS

Clyde Avenue West Vancouver
British Columbia Canada V7T 1C9
Telephone 604-922-3255 • Fax 604 922-3253
E-mail dkeng@dayton-knight.com

A/C 2004

Invoice number 39798
August 4, 2004
Page number 1

Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

AUG -8 RECD

Professional Services to July 31, 2004

Fort St James Aerated Lagoon Upgrade
Project No 403.1

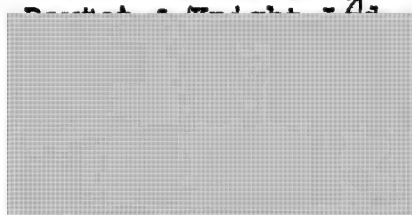
Professional Services

Hours	Rate	Amount
2.50	115.00	287 50
4.00	90.00	360 00
.50	45.00	22.50
Services Total	7.00	670.00

Disbursements

Cost	Mult	Amount
1.00	1.05	1.05
5.24	1 05	5 50
Disbursement Total		6.55
Total Amount Due		676 55

Certified Correct,



** Backup for Disbursements is Available Upon Request **



Dayton & Knight Ltd.

CONSULTING ENGINEERS

Released under the Access
to Information Act

#210 889 Harbourside Drive, North Vancouver
British Columbia, Canada V7P 3S1
Telephone 604-990-4800 Fax 604-990-4805
E-mail dkeng@dayton-knight.com

Invoice number 39982
September 8, 2004
Page number 1

Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B.C
V2L 3N2

WE HAVE MOVED
AS OF AUGUST 27, 2004

TO #210 889 Harbourside Drive
North Vancouver BC V7P 3S1
Phone 604 990 4800 Fax 604 990 4805

Professional Services to August 31, 2004

Fort St. James Aerated Lagoon Upgrade
Project No. 403.1

Professional Services	Hours	Rate	Amount
John W C. Boyle, P.Eng.	1 50	115.00	172 50
Brian Harrington, P.Eng.	1.50	90.00	135.00
Casey Leggett	8.00	35 00	280.00
Services Total	11.00		587.50

Disbursements	Cost	Mult	Amount
Fax 1 fax @ 1 00	1.00	1 05	1 05
Long Distance Charges	10 15	1.05	10.66
Disbursement Total			11 71
Total Amount Due			599.21

CSIS
RECEIVED

SEP 13 2004

CSIS

SEP 14 2004

** Backup for Disbursements is Available Upon Request **



Dayton & Knight Ltd.

CONSULTING ENGINEERS

Released under the Access
to Information Act

#210 - 889 Harbourside Drive North Vancouver
British Columbia Canada V7P 3S1
Telephone 604-990-4800 Fax 604-990-4805
E-mail dkeng@dayton-knight.com

614-01-02

Rec'd 1/31/05
A

Invoice number 40894
January 4, 2005
Page number 1

Nak'azdi Band
c/o Carrier Sekani Tribal
#200, 1460 - 6th Avenue
Prince George, B C
V2L 3N2

Professional Services to December 31, 2004

Fort St James Aerated Lagoon Upgrade
Project No 403 1

Professional Services	Hours	Rate	Amount
John W C Boyle, P Eng	10 00	115 00	1,150.00
Louise Williams	1 50	65 00	97 50
Angela C Davies	.50	45.00	22 50
Yvonne Vandermeer	.50	45 00	22.50
Services Total	12 50		1,292.50

Disbursements	Cost	Mult	Amount
Accommodations	75 60	1 05	79 38
Car Rental	239 12	1 05	251.08
Fax 74 faxes @ 1 00	74 00	1 05	77 70
Parking	8 67	1 05	9.10
Long Distance Charges	23.80	1 05	24.99
Disbursement Total			442.25

Total Amount Due 1,734 75

Certified Correct,
td

P Eng

OK to pay
Pm
21/02/05

NAK'AZDLI BAND COUNCIL (2005/06)
Surplus (Deficit) Statement
As of Mar 31 2006

WASTEWATER COLL/TRMT #5694 632

Revenue

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					

Expenditures

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Expenditures					

Surplus (deficit) prior year

(625 919)

Total Surplus (deficit)

(625 919)

Sort order: Account, department, fiscal period, source code, date, description

Selection: All accounts

Department [632] to [632]

All fiscal periods for year 2006

Options: Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence: 123

Pd Source	Date	Description	Reference	Units	Débts	Credits	Net Posted Balance
3000		632 WASTEWATER TRMT/DISP SUR/DEF					625,919.43 *
Account Balance							625,919.43
3100		632 CFNFA FUNDING					0.00 *
Account Balance							0.00
3500		632 DIA - TARGETED FUNDING					0.00 *
Account Balance							0.00
3800		632 REVENUE - MISCELLANEOUS					0.00 *
Account Balance							0.00
5200		632 MATERIALS AND SUPPLIES					0.00 *
Account Balance							0.00
5400		632 ARCHITEC, ENGINEER, CONSULTANT					0.00 *
Account Balance							0.00
8700		632 MTSA DEBT RETIREMENT					0.00 *
Account Balance							0.00
8900		632 CAPITAL EXPENDITURES					0.00 *
Account Balance							0.00
9000		632 TRANSFER TO/FROM					0.00 *
Account Balance							0.00
0 transaction(s) printed					Report Net Change	0.00	0.00
9 account(s) printed					Report Balance	625,919.43	

NAK'AZDLI BAND COUNCIL (2006/07)
Surplus (Deficit) Statement
As of Mar 31 2007

WASTEWATER COLL/TRMT #5694 632

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
CFNFA FUNDING			37 794	(37 794)	(37 794)
Total revenue			37 794	(37 794)	(37 794)
Expenditures					
ARCHITEC ENGINEER CONSULT			36 775	(36 775)	(36 775)
Total expenditures			36 775	(36 775)	(36 775)
Current Period Surplus (Deficit)			\$1,019	(\$1,019)	(\$1,019)
Surplus (deficit) prior year			(625 919)		
Total Surplus (deficit)			(624 901)		

NAK'AZDL BAND COUNCIL (2006/07)

Adagio Ledger - Detail Listing

Calculated as of Mar 31 2007

Community Access May 03 2012

Lousur Access Page 1 of 1

Sort order Account, department, fiscal period, source code, date, description

Selection All accounts

Department [632] to [632]

All fiscal periods for year 2007

Options Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 235

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted Balance
3000	632		WASTEWATER TRMT/DISPOSAL					625,919 43
9	GL-JE	12/01/2006	ADJUST PROJECT#5694	JE 9-5		656 656 85		656 656 85
			Balance					38 787 42
11	GL-JE	02/28/2007	REVERSE JE 9 5	JE 11 38		656 656 85		656 656 85
			2 transactions(s) printed					
			1 account(s) printed					
			Account Net Change			656 656 85	656 656 85	0 00
			Account Balance					625 919 43
3100	632		CFNFA FUNDING					0 00
9	GL-JE	12/01/2006	REVERSE Y/E DEFERRED REVE JE 9 3				21,270 24	21 270 24
			Balance					21 270 24
12	GL-JE	03/31/2007	INAC A/C REC 2006 2007	JE 12 8			7 057 00	
12	GL JE	03/31/2007	JAZZ PLUMBING	JE 12 6			9,466 61	-16,523 61
			3 transactions(s) printed					
			1 account(s) printed					
			Account Net Change			0 00	97 793 85	97 793 85
			Account Balance					97 793 85
5200	632		MATERIALS AND SUPPLIES					0 00 *
			Account Balance					0 00
5400	632		ARCHITEC,ENGINEER,CONSULT					0 00
12	AP IN	03/20/2007	58- 51 5 DISTRICT OF F	1414		36 774 99		
12	GL-JE	03/31/2007	INAC A/C REC SEWAGE TREATM	JE 12 9			6 038 14	
12	GL-JE	03/31/2007	REVERSE JE 12-8	JE 12-90		6 038 14		36 774 99
			3 transactions(s) printed					
			1 account(s) printed					
			Account Net Change			62 813 13	6 038 14	36 774 99
			Account Balance					36 774 99
8900	632		CAPITAL EXPENDITURES					0 00 *
			Account Balance					0 00
9000	632		TRANSFER TO/FROM					0 00 *
			Account Balance					0 00
			8 transaction(s) printed					
			6 account(s) printed					
			Report Net Change			699 489 96	700 488 84	10 018 86
			Report Balance					624 900 57

INVOICE 1414

IN ACCOUNT WITH

District of Fort St. James

Phone (250) 996-8233

Mailing Address:

Box 640
Fort St James, B C
V0J 1P0

January 6, 2006

To

Nak'azdli Band Council

Box 1329

Fort St. James, BC, V0J 1P0

DATE

DUE AND PAYABLE UPON RECEIPT

Re 2005 Capital Upgrade to Lagoon Facility - Lagoon Blowers

Total

\$36,774.99

W\FORMS\INVOICE\AR

APPROVED

PLEASE RETURN ONE COPY OF THIS INVOICE WITH YOUR CHEQUE
A0429740_47-000403

NAK'AZDLI BAND COUNCIL (2007/08)
Surplus (Deficit) Statement
As of Mar 31 2008

WASTEWATER COLL/TRMT #5694 - 632

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
Expenditures					
Surplus (deficit) prior year			(624 901)		
Total Surplus (deficit)			(624 901)		

NAKAZDLE BAND COUNCIL (2007/08)

Information Act

May 04 2012

Adagio Ledger - Detail Listing

Calculated as of Mar 31 2008

Communication en vertu de la Loi sur l'accès à l'information

Page 3 of 1

Sort order: account, department, fiscal period, source code, date, description

Selection: All accounts

Department [632] to [632]

All fiscal periods for year 2008

Options: Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 221

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted/ Balance
3000	632	WASTEWATER TRMT/DISPOSAL				Special Posting(s) Previous		
12	GL-JE	08/21/2007	Close to Retained Earnings	5400 632			6,038 14	
12	GL-YR	08/08/2007	Close to Retained Earnings	5400 632		6 038 14		0 00
			2 transactions(s) printed		Account Net Change	6,038 14	6,038 14	0 00
			1 account(s) printed		Account Balance			624,900.57
3100	632	CFNFA FUNDING						0 00 *
					Account Balance			20.00
5200	632	MATERIAL & SUPPLIES						0 00 *
					Account Balance			0.00
5400	632	ARCHITEC,ENGINEER,CONSULT				Special Posting(s) - Previous		
1	GL-JE	04/01/2007	REVERSE AUDITOR'S Y/E ENTR	JE 7			6 038 14	
1	GL JE	04/01/2007	Y/E ENTRY	JE 7		6,038 14		0 00
12	GL JE	08/21/2007	Close to Retained Earnings	3000 632		6,038 14		
12	GL YR	08/08/2007	Close to Retained Earnings	3000 632			6 038 14	0 00
			4 transactions(s) printed		Account Net Change	12,076 28	12,076 28	0 00
			1 account(s) printed		Account Balance			0.00
8900	632	CAPITAL EXPENDITURES						0 00 *
					Account Balance			20.00
9000	632	TRANSFER TO/FROM						0 00 *
					Account Balance			0.00
			6 transaction(s) printed		Report Net Change	18,114 42	18,114 42	0 00
			6 account(s) printed		Report Balance			625,019.45

NAK'AZDLI BAND COUNCIL (2008/09)
Surplus (Deficit) Statement
As of March 31, 2009

WASTEWATER COLL/TRMT #5694 - 632

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
Expenditures					
Surplus (deficit) prior year			(551,211)		
Total Surplus (deficit)			(551 211)		

NAK'AZDI BAND COUNCIL (2008/09)

Adagio Ledger - Detail Listing

Calculated as of March 31, 2009

Sort order: account, department, fiscal period, source code, date, description

Selection: All accounts

Department [632] to [632]

All fiscal periods for year 2009-

Options: Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 302

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted / Balance
3000	632	WASTEWATER TRMT/DISPOSAL						
Closing Entries								
99	GL JE	09/13/2008	Close to Retained Earnings	3100 632			75 910 00	-75 910 00
						Opening Balance		548,890 57
1	GL-JE	04/01/2009	ADJUST OPENING SURPLUS ACC JE 001			2,220 00		2 220 00
2 transactions(s) printed						Account Net Change	2,220 00	75,910 00
1 account(s) printed						Account Balance		551,210 57
3100	632	CFNFA FUNDING						
12	GL JE	03/31/2008	REC INAC REC AT YEAR END	ADJ JE 59			75 910 00	-75 910 00
Closing Entries								
99	GL-JE	09/13/2008	Close to Retained Earnings	3000 632			75 910 00	75 910 00
2 transactions(s) printed						Account Net Change	75,910 00	75,910 00
1 account(s) printed						Account Balance		0 00
5200	632	MATERIAL & SUPPLIES						0 00 *
						Account Balance		0 00
5400	632	ARCHITEC,ENGINEER,CONSULT						0 00 *
						Account Balance		0 00
8900	632	CAPITAL EXPENDITURES						0 00 *
						Account Balance		0 00
9000	632	TRANSFER TO/FROM						0 00 *
						Account Balance		0 00
4 transaction(s) printed						Report Net Change	75,910 00	51,620 00
6 account(s) printed						Report Balance		475,300 57

INVOICE SUMMARY

Released under the Access to Information Act

Communiqué en vertu de la Loi sur l'accès à l'information

CARRIER SEKANI TRIBAL COUNCIL - TECHNICAL SERVICES UNIT

1460 6th AVE
Prince George BC V2L 3N2
Tel (250) 562-6279
Fax (250) 562-0900

No 315

TO Nak'azdli Band
P O Box 1329
Fort St James, BC V0J 1P0
FOR Nak'azdli Wastewater Collection Treatment & Disposal Impr CPMS 5694

DATE March 31, 2008
PER Leona Thomas
FILE NO 614-01-02
PERIOD 4/31/07 - 3/31/08

LABOUR	HOURS	RATE	TOTAL
Technical Director	x	\$55 00 / hour	
Draftsperson	x	\$19 00 / hour	
Maintenance Advisor	x	\$44 00 / hour	
EIT Engineer	x	\$29 00 / hour	
Secretarial	x	\$25 00 / hour	
Other Engineer A	x	/ hour	
Engineer B	x	/ hour	
Proj Coordinator	x	/ hour	
Contract	x	/ hour	
	x	/ hour	
	x	/ hour	
	x	/ hour	
SUB TOTAL			\$0 00

DISBURSEMENTS	QUANTITY	RATE	TOTAL
Photocopies	x	\$0 10 / page	
Blue Prints	x	\$0 20 / sq ft	
Mylars	x	\$6 50 / sheet	
Plotting	x	\$2 50 / sheet	
ACAD Computer Time	x	\$5 00 / hour	
Supplies			
Meals & Incidentals			
Mileage	x	\$0 46 / km	
Mileage Sewer Flusher	x	\$0 50 / km	
Accommodations			
Other	TSU Project Management Fees (3%) - Balance		\$1,811 00
SUB TOTAL			\$1,811 00

TOTAL (LABOUR & DISBURSEMENTS)

\$1,811 00

NAK'AZDLI BAND COUNCIL (2009/10)
Surplus (Deficit) Statement
As of March 31, 2010

WASTEWATER COLL/TRMT #5694 - 632

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
Expenditures					
Surplus (deficit) prior year			(551,211)		
Total Surplus (deficit)			(551 211)		

NAKAZDI BAND COUNCIL (2009/10)

Adagio Ledger - Detail Listing

Calculated as of March 31, 2010

Sort order: account, department, fiscal period, source code, date, description

Selection: All accounts

Department [632] to [632]

All fiscal periods for year 2010-

Options: Include inactive accounts, include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 411

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted/ Balance
	3000		632 WASTEWATER TRMT/DISPOSAL					551,210.57 *
						Account Balance		551,210.57
	3100		632 CFNFA FUNDING					0.00 *
						Account Balance		0.00
	5200		632 MATERIAL & SUPPLIES					0.00 *
						Account Balance		0.00
	5400		632 ARCH/TEC,ENGINEER,CONSULT					0.00 *
						Account Balance		0.00
	8900		632 CAPITAL EXPENDITURES					0.00 *
						Account Balance		0.00
	9000		632 TRANSFER TO/FROM					0.00 *
						Account Balance		0.00
0 transaction(s) printed				Report Net Change		0.00	0.00	0.00
6 account(s) printed				Report Balance				551,210.57

NAK'AZDLI BAND COUNCIL
Surplus (Deficit) Statement
As of March 31, 2011

WASTEWATER COLL/TRMT #5694 - 632

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
Expenditures					
MATERIAL & SUPPLIES	0	0	59 621	(59 621)	(59 621)
Total expenditures	0	0	59 621	(59 621)	(59 621)
Current Period Surplus (Deficit)		\$0	(\$59,621)	\$59,621	\$59,621
Surplus (deficit) prior year			(551 211)		
Total Surplus (deficit)			(610 832)		

Sort order account, department, fiscal period, source code, date, description

Selection All accounts

Department [632] to [632]

All fiscal periods for year 2011-

Options Include inactive accounts, include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 295

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net Posted / Balance
3000			632 WASTEWATER TRMT/DISPOSAL					551,210 57 *
Account Balance								551,210 57
3100			632 CFNFA FUNDING					0 00 *
Account Balance								0 00
5200			632 MATERIAL & SUPPLIES					0 00
10	GL-JE	01/31/2011	DISTRICT OF FSJ INV 1906	REALLOCATE		59 621 44		59,621 44
			1 transaction(s) printed					
			1 account(s) printed					
Account Net Change						59,621 44	0 00	59,621 44
Account Balance								59,621 44
5400			632 ARCHITEC,ENGINEER,CONSULT					0 00 *
Account Balance								0 00
8900			632 CAPITAL EXPENDITURES					0 00 *
Account Balance								0 00
9000			632 TRANSFER TO/FROM					0 00 *
Account Balance								0 00
			1 transaction(s) printed					
			6 account(s) printed					
Report Net Change						59,621 44	0 00	59,621 44
Report Balance								610,832 01



Carrier Sekani Tribal Council

REPLY TO

☒ **PRINCE GEORGE OFFICE**

1460 6th Avenue
Prince George B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206
www.cstc.bc.ca

☐ **HEAD OFFICE**

Wet'suwet'en First Nation
PO Box 760
Burns Lake B.C.
V0J 1E0



September 20, 2010

File No 614-01-02

Nak'azdli Band
P O Box 1329
Fort St. James, BC
V0J 1P0

Attention: Aileen Prince, Band Manager

RE: NECOSLIE SEWAGE TREATMENT PRE-DESIGN/DESIGN (CPMS #5694)

Attached is your faxed copy of the original invoice, #1906, from the District of Fort St James for upgrade work to the lagoon facility in 2005/06 and 2007/08 on the above project. The invoice total is \$59,621 44 Your budget for the above project is \$189,470 00 and the project budget remaining is \$8,441 42

The Technical Services Unit has reviewed the invoice and determined that the time and services provided are consistent with the work performed to date Therefore, we recommend payment in the amount of \$59,621.42 to the District of Fort St. James.

Please call if you have any questions

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Audrey Osterhout
Technical Services Coordinator,
Technical Services Unit

attachment

042931

NAK' AZDLI BAND COUNCIL

09/21/2010

Vendor DIS002

Name DISTRICT OF FORT ST JAMES

21-Sep-10

Account - Dept	Description	Amount
1906	UPGRADE OF SEWAGE LAGOON	\$59,621 44
Total		\$59,621 44
Discount		\$0 00
Cheque		\$59,621 44

00781463012132-
525322 To re-order call Davis + Henderson 1-800-686-1887 (M-F 9am to 6pm EST)
10049

FORT ST JAMES
DISTRICT

Nak'azdli Band
Box 1329
Fort St. James, B C
V0J 1P0

INVOICE NO 1906

IN ACCOUNT WITH
DISTRICT OF FORT ST JAMES

Phone (250) 996-8233

Mailing Address
PO Box 640
Fort St James, BC V0J 1P0

15-Sep-10

DATE

DUE AND PAYABLE UPON RECEIPT

Re Upgrade of Sewage Lagoon
Total Project Cost

\$703,637 18

Nak'azdli Band

Cost Share, 25%

\$175,909 30

Costs paid by Band to Date

\$116,287 86

Outstanding Band Costs to District of Fort St James

\$59,621 44

Total Payable

5240-610

\$59,621 44

5200-632

POSTED
PAID

APPROVED

PLEASE RETURN ONE COPY OF THIS INVOICE WITH YOUR CHEQUE

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to Information Act

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Loi sur l'accès à
l'information

DISTRICT OF FORT ST. JAMES / NAK AZDLI BAND
UPGRADE OF SEWAGE LAGOON
CPMS #5694

SUMMARY OF PROJECT COSTS AND COST SHARING

Work Item Description	Cost
<u>2002/2005 PLANNING / DESIGN</u>	\$ 79,512.87
<u>2005/06 CONSTRUCTION COSTS</u>	
Blowers	\$ 105,497.44
Sludge Sampling/Misc Costs	\$ 662.14
Engineering	\$ 34,426.83
Sub-Total	\$ 160,586.41
<u>2007/08 CONSTRUCTION COSTS</u>	
Mobilization and Demob	\$ 11,000.00
Septage Receiving Station/Sludge Removal	\$ 87,281.35
Lagoon Desludging	\$ 119,640.00
Fine Bubble Aeration Upgrade	\$ 179,200.00
Engineering	\$ 66,416.55
Sub-Total	\$ 463,537.90

<u>TOTAL PROJECT COST</u>	\$ 703,637.18
----------------------------------	----------------------

Cost Sharing Summary	Total
<u>Nak'azdli Band</u>	
Cost Share, 25%	\$ 175,909.30
Costs Paid by Band to Date	\$ <u>(79,512.87)</u>
Outstanding Band Costs to District of Fort St. James	\$ 96,396.43

+ 36,774.99 ①
116,257.86

① Paid April 3, 2007

NAK'AZDLI BAND COUNCIL
Surplus (Deficit) Statement
As of March 31, 2012

WASTEWATER COLL/TRMT #5694 - 632

	Annual Budget	Year To Date Budget	Year To Date Actual	Variance	Remaining
Revenue					
Expenditures					
Surplus (deficit) prior year			(610 832)		
Total Surplus (deficit)			(610 832)		

NAKAZDIL BAND COUNCIL

Adaplo Ledger: Detail Listing

Calculated as of March 31, 2012

May 04 2012

Page 1 of 1

Sort order: account, department, fiscal period, source code, date, description

Selection All accounts

Department [632] to [632]

All fiscal periods for year 2012-

Options Include inactive accounts, Include accounts with no activity

Include prior year postings

Show primary description

Show units

Highest posting sequence 238

Pd	Source	Date	Description	Reference	Units	Debits	Credits	Net	Reported
								Balance	Balance
3000	632		WASTEWATER TRMT/DISPOSAL					610,832 01 *	
							Account Balance		610,832 01
3100	632		CFNFA FUNDING					0 00 *	
							Account Balance		0 00
5200	632		MATERIAL & SUPPLIES					0 00 *	
							Account Balance		0 00
5400	632		ARCHITEC,ENGINEER,CONSULT					0 00 *	
							Account Balance		0 00
8900	632		CAPITAL EXPENDITURES					0 00 *	
							Account Balance		0 00
9000	632		TRANSFER TO/FROM					0 00 *	
							Account Balance		0 00
0 transaction(s) printed						Report Net Change	0 00	0 00	0 00
6 account(s) printed						Report Balance			610,832 01



Dayton & Knight Ltd.
CONSULTING ENGINEERS

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l'information

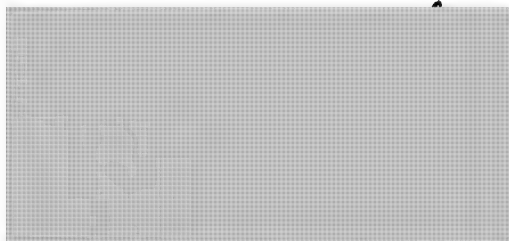
Substantial Completion Certificate

Contract Title Aerated Lagoon Upgrade Ref # 330 002
Owner District of Fort St James
Contractor Nechako Excavating Ltd
Date of Issue 12-Aug-08

I certify that to the best of my knowledge

- Work on this Contract was **Substantially Complete** 30-Jul-08
- As of inspection July 30, 2008 there were no noted deficiencies in the work. The engineer shall complete a Final Inspection prior to issuance of a Final Completion Certificate
- The **Maintenance Period** specified in the Agreement shall
commence on 30-Jul-08
and terminate on 30-Jul-09
- Payment Certificate #3, including a Builder's Lien Holdback in the amount of \$37,248 14, covers all work completed to date, excepting that an outstanding claim for removing extra sludge from Cell #2 is expected to be resolved prior to the Release of Holdback and Final Payment

Certified By



Scott Bilbrough, P Eng
Contract Administrator

Aug 12/2008

Date



May 28, 2010

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NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
Telephone (250) 996 7171
Fax (250) 996 8010

Carrier Sekani Tribal Council
200-1460 Sixth Avenue
Prince George, BC
V2L 3N2

Attention Audrey Osterhaut, Technical Services Coordinator

Dear Audrey

Re Certification of Construction Completion – Lagoon Upgrade

I am enclosing a copy of the above-mentioned report that we received from the District of Fort St. James

If you should have any further questions, please feel free to contact the undersigned at 250-996-7171

Sincerely,
NAK'AZDLI BAND COUNCIL

A handwritten signature in cursive script, appearing to read "Leona Thomas".

Leona Thomas
CHL Administration

Attachments

cc Finance Department



Dayton & Knight Ltd.
CONSULTING ENGINEERS

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l'information
#101-2700 Queensway Street, Prince George
British Columbia, Canada V2L 1N2
Telephone 250-562-0038 Fax 250-562-0058
E mail pgeorge@dayton-knight.com

April 26, 2010

Mr Kevin Crook
CAO
District of Fort St James
PO Box 640
Fort St James, BC
VOJ 1P0

RECEIVED
APR 27 2010

RE District of Fort St James / Nak'azdli Band
Lagoon Upgrading
Certification of Construction Completion

Dear Mr Crook,

We are pleased to provide three copies of this letter certifying construction completion of the District of Fort St James Lagoon Upgrade. The objective of this letter is to summarize the history of the project and the scope and cost of work completed in order that the District may request cost sharing payment from the Nak'azdli Band.

Fort St James Lagoons

The District of Ft St James lagoon system is located on the Necoslie Indian Reserve and provides sewer service to the Nak'azdli Band via a Municipal Type Service Agreement (MTSA). In addition to annual fees sewer service, we understand the MTSA also provides that the band will share in the cost of capital upgrades.

The District of Fort St James lagoons were originally constructed in 1968 / 69 as a system of twin facultative lagoons. In 1985, after approximately 15 years of operation, the lagoons were significantly upgraded / reconstructed. The 1985 reconstruction included a combination of anaerobic (heavily loaded primary treatment - no aeration) cells, partial mix (aerated) cells, and facultative (settling) cells. The treatment cells were followed by chlorination, dechlorination, and a final polishing cell. The 1985 design drawings also provided for long term future upgrades, including aeration of cells 1, 2, and 4.

1999 Lagoon Assessment

In 1999, in response to odor complaints from residents, the District engaged Dayton & Knight Ltd to complete an assessment of the lagoon system. The lagoon assessment found the lagoons were meeting the Ministry of Environment's treatment and effluent quality requirements but recommended upgrades related to odors and replacement of mechanical systems that had reached the end of their useful service life. The assessment reviewed a number of upgrade options. Options for upgrades that would address the age of mechanical components of the system included,

RECEIVED
MAY 2 2010
NAK'AZDLI BAND

- Replacement of the mechanical blower units which were reaching the end of their normal useful life (15 to 20 years)
- Replacement of the old coarse bubble aerators in cells 3 and 5 with fine bubble aerators

Options for upgrades that were intended to address long term treatment requirements of the system included

- Addition of aeration in cells 1, 2 and/or 4

Options for upgrades that were intended to address odors included

- Installation of a septage receiving station to reduce the "shock" loading of high strength septic tank waste to the system
- Desludging and addition of aeration in cells 1 and 2

An evaluation of costs of the various upgrade options identified that adding aeration to cells 1 and 2 was estimated to cost approximately 50% less than adding aeration to cell 4 (in 1999 dollars). Aeration of cells 1 and 2 would also target the heavy septic loadings of cell 1 and 2 where anaerobic conditions were likely to be a source of odors. As a result of the lower cost, aeration of cell 1 and 2 was recommended, with aeration of cell 4 left as an option for the future.

As an additional stage of work, the 1999 analysis also recommended replacement of the coarse bubble aeration in cells 3 and 5 with more efficient fine bubble aeration.

Subsequent to the 1999 lagoon assessment, the District initiated discussions with INAC and the Nak'azdli Band regarding sharing in the cost of the proposed upgrades. The estimated cost for the lagoon upgrade (for the lowest cost options), in 1999, was \$366,000.

Design of Lagoon Upgrades

INAC provides funding to Indian Bands via a number of methods including, but not limited to, servicing agreements (as described above), Capital Project funding, and Operation and Maintenance funding for band owned assets. The requirements for funding approval and availability of funding vary between the funding programs and depend on a number of factors. In 2002, INAC provided capital project funding towards the cost of project planning, pre-design and detailed design.

The planning and design activities resulted in design review and construction funding submissions to INAC in 2005/2006. The scope of lagoon upgrade generally included

- Replacement of the air blowers
- Desludging of cells 1,2, and 3
- Installation of fine bubble aeration in Cells 1 & 2

- Replacement of coarse bubble aeration in cells 3 and 5 with fine bubble aeration
- Construction of a septage receiving station

In 2006, the estimated cost of construction was approximately \$733,000, not including costs previously incurred for project planning and design

2005/06 Construction

In 2005/06, while waiting for INAC funding approval for the band's contribution towards the cost of the lagoon upgrades, the District proceeded with the replacement of the blowers in the operations building. This was deemed necessary as they had reached the end of their useful service life, and required immediate replacement.

2007/08 Construction

In 2006, INAC approved construction of the project, in principle, by listing it as "Eligible for Funding", with the timing of funding subject to INAC priorities.

With the understanding that the band would ultimately contribute 25% of the total project, the District proceeded, in 2007, to initiate completion of the next stage of lagoon upgrade. Funding limitations (the band and District), in combination with seasonal construction limitations made it infeasible to construct all of the proposed works in one season. Recognizing these limitations the District reduced the scope of work. The scope of work for 2007/2008 included:

- Desludging of cells 1 & 2
- Installation of fine bubble aeration in Cells 1 & 2
- Construction of a septage receiving station

By December 2006, the total cost of the project, including the construction cost of work listed above (\$487,000 construction cost) was estimated to be \$736,000.

Construction of the lagoon upgrades (not including replacement of cell 3 and 5 air diffusers) was completed in 2007 and 2008.

Project Costs and Funding

As described above, the project has been implemented over a period of time from 2002 to 2008, with project costs paid partly by the Nak'azdli Band (Design) and by the District of Fort St. James (Construction). The general intent of the INAC capital project funding was that it would honor the intent of the MTSA, where 25% of the total cost of the project would be paid by the band. The tables on the following pages summarize project costs and the remaining cost sharing contribution required of the Nak'azdli Band, in the amount of \$96,396.43.

**DISTRICT OF FORT ST JAMES / NAK'AZDLI BAND
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

SUMMARY OF PROJECT COSTS AND COST SHARING

Work Item Description	Cost
<u>2002/2005 PLANNING / DESIGN</u>	\$ 79,512 87
<u>2005/06 CONSTRUCTION COSTS</u>	
-	
Blowers	\$ 105,497 44
Sludge Sampling/Misc Costs	\$ 662 14
Engineering	\$ 54,426 83
Sub-Total	\$ 160,586 41
<u>2007/08 CONSTRUCTION COSTS</u>	
-	
Mobilization and Demob	\$ 11,000 00
Septage Receiving Station/Sludge Removal	\$ 87,281 35
Lagoon Desludging	\$ 119,640 00
Fine Bubble Aeration Upgrade	\$ 179,200 00
Engineering	\$ 66,416 55
Sub-Total	\$ 463,537 90
<u>TOTAL PROJECT COST</u>	\$ 703,637 18
Cost Sharing Summary	Total
<u>Nak'azdli Band</u>	
Cost Share, 25%	\$ 175,909 30
Costs Paid by Band to Date	\$ (79,512 87)
Outstanding Band Costs to District of Fort St James	\$ 96,396 43

Outstanding Issues

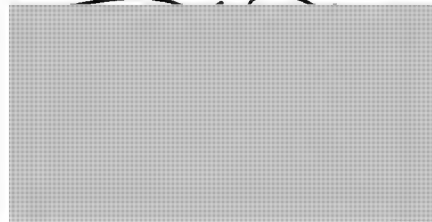
Since completion of the upgrades, area residents have complained that odors have not improved. From discussion with District staff, it is our understanding that the current odor issues are intermittent and may be most significant in the spring and/or fall. We understand that the District is initiating an operating program of monitoring D O levels at various cell inlet/outlet locations in order to better identify specific source / cause of the remaining odors. As per our letter of January 2010, aeration of Cell 4, at least seasonally may be an options to remedy the seasonal odor issue.

As mentioned above, replacement of the coarse bubble diffusers and aeration piping in Cell 3 and 5 was deferred. The age of the diffusers and piping is approaching 25 years. In the long term, as the maintenance or repair needs of these works increases, replacement may need to be re-considered.

Trusting this letter and attachments meets your expectations, please do not hesitate to contact the undersigned directly with any immediate questions you may have.

Yours truly,

Dayton & Knight Ltd



SB1/lc
330 002



Dayton & Knight Ltd.
CONSULTING ENGINEERS

Substantial Completion Certificate

Contract Title Aerated Lagoon Upgrade Ref # 330 002
Owner District of Fort St James
Contractor Nechako Excavating Ltd
Date of Issue 12-Aug-08

I certify that to the best of my knowledge

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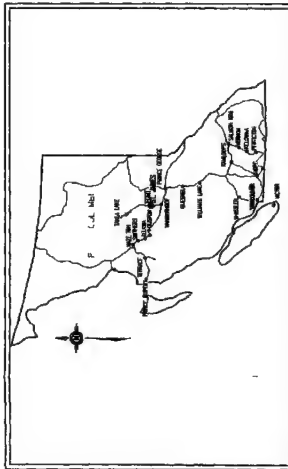
Certified By



Contract Administrator

Aug 12/2008

Date

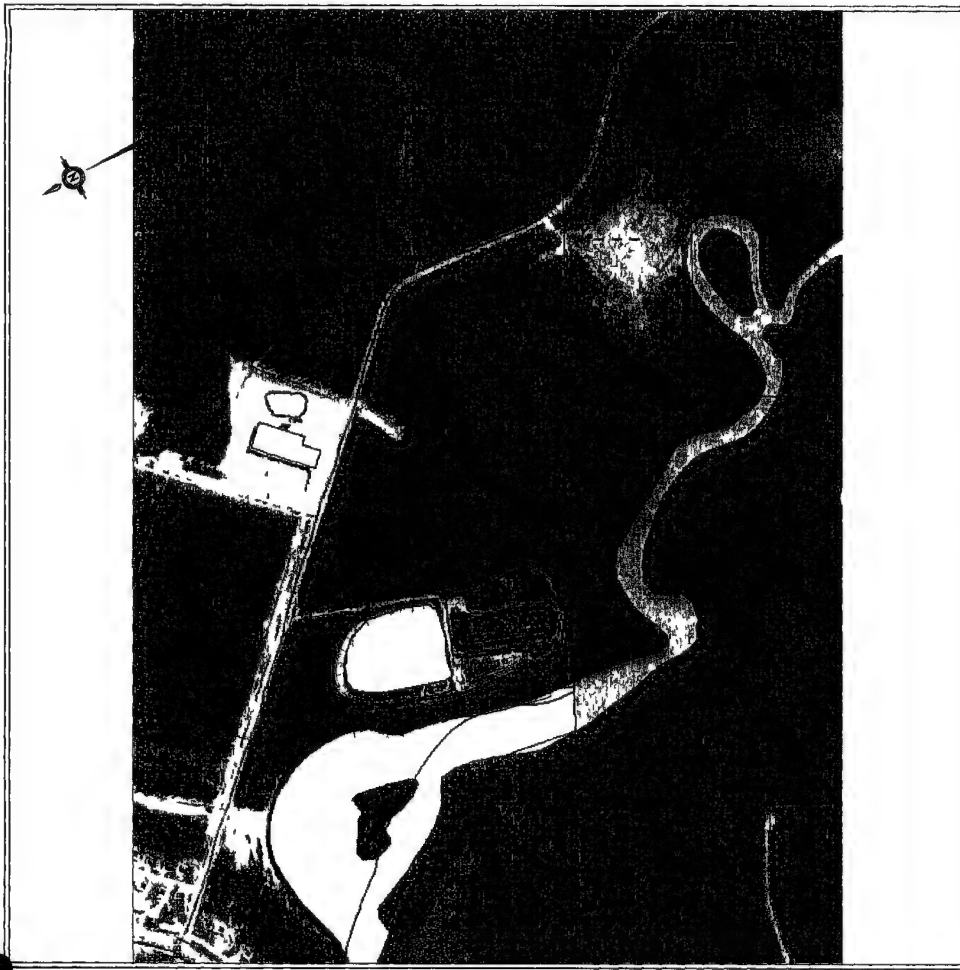


KEY PLAN

NOTES
1. ALL DIMENSIONS & ELEVATIONS IN METERS OR MILLIMETERS

INDEX TO DRAWINGS

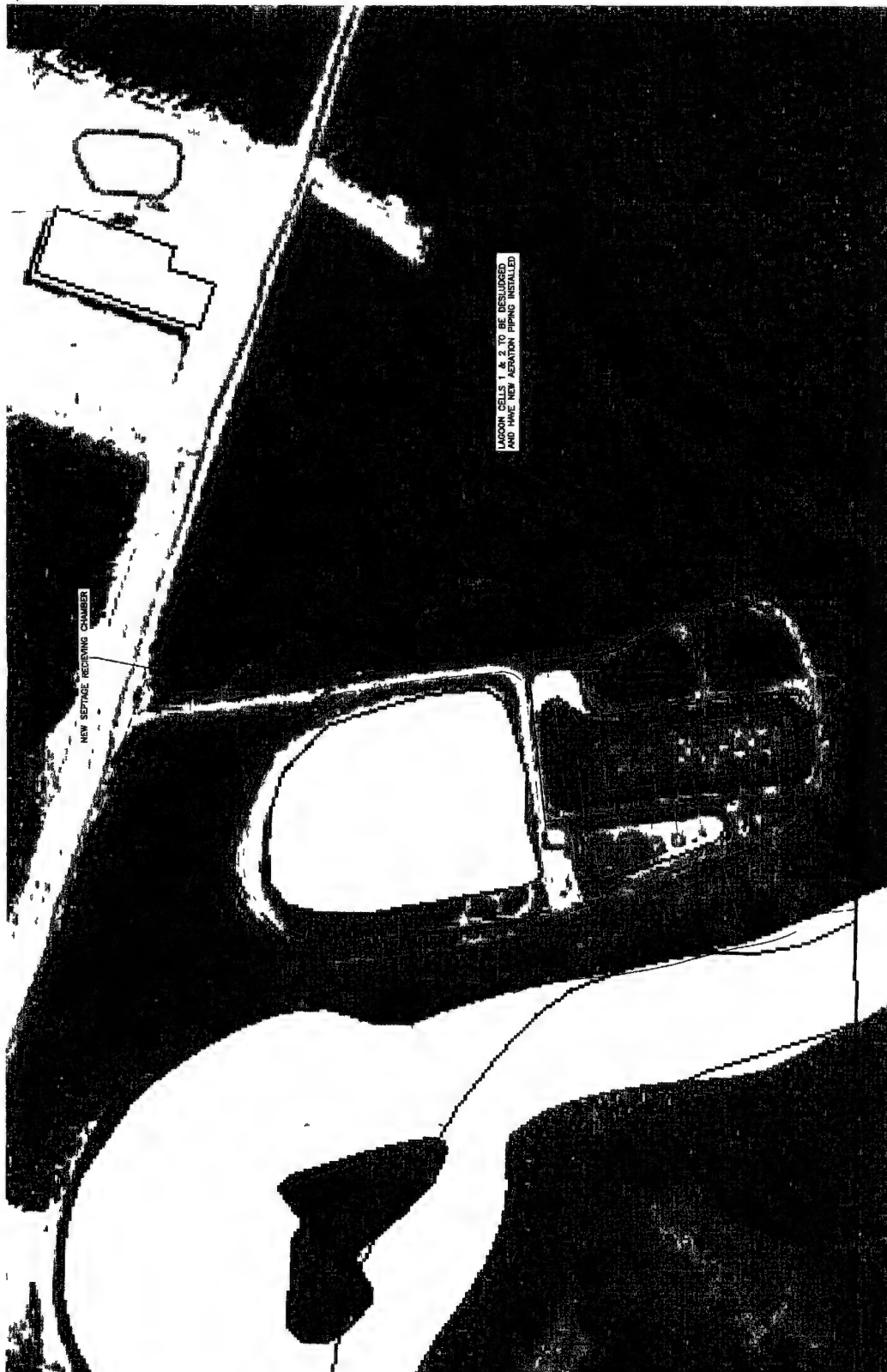
- | No | TITLE |
|----|---|
| 01 | GENERAL |
| 02 | KEY PLAN - AREA PLAN - INDEX TO DRAWINGS |
| 03 | OVERALL SITE PLAN |
| 04 | DETAILED SITE PLAN |
| 05 | ASPHALT DETAILS |
| 06 | ASPHALT DETAILS |
| 07 | SEPTAGE RECEIVING CHAMBER PLAN |
| 08 | SEPTAGE RECEIVING CHAMBER SECTION & DETAILS |
| 09 | SEPTAGE RECEIVING CHAMBER SECTION & DETAILS |
| 10 | SEPTAGE RECEIVING CHAMBER PLAN & SECTION |

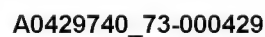


AREA PLAN

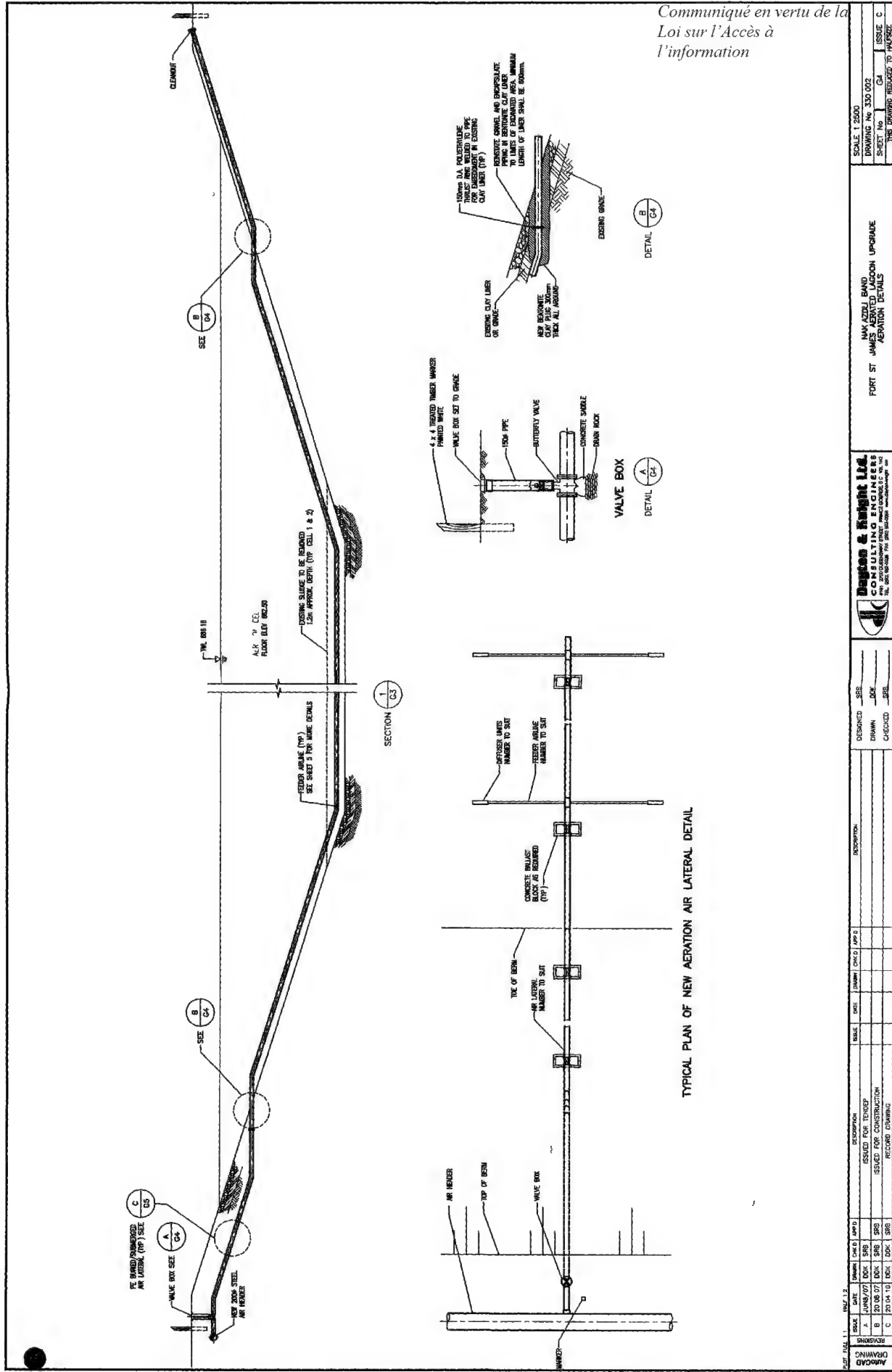
NAKAZDLI BAND
FORT ST JAMES AERATED LAGOON UPGRADE
CONTRACT No 330 002

Dayton & Knight Ltd. CONSULTING ENGINEERS 100-10100 101 Ave. SW Edmonton, Alberta T6E 6K6 Tel: (780) 443-1111 Fax: (780) 443-1112		SCALE AS SHOWN DRAWING No 330 002 SHEET No 1 THE DRAWING IS TO BE USED IN CONNECTION WITH THE CONTRACT NO 330 002	
DESIGNER: J.S.B. DRAWN: J.S.B. CHECKED: J.S.B.		NAKAZDLI BAND FORT ST JAMES AERATED LAGOON UPGRADE KEY PLAN - AREA PLAN - INDEX TO DRAWINGS	
DATE: 15-08-01 BY: J.S.B. CHECKED: J.S.B.		ISSUE C THE DRAWING IS TO BE USED IN CONNECTION WITH THE CONTRACT NO 330 002	

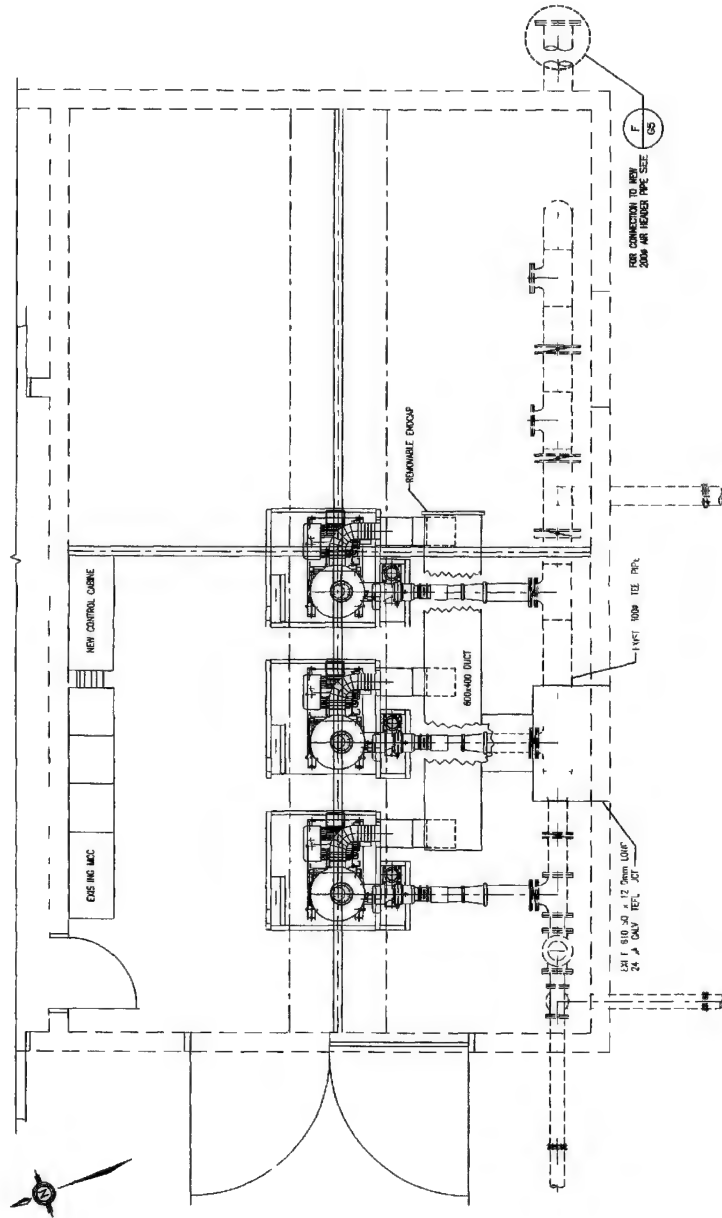
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AUTOCAD DRAWING		DATE	20 04 11	ISSUED FOR TENDER	20 04 11	ISSUED FOR CONSTRUCTION	20 04 11	RECORD DRAWING	20 04 11
SCALE	1:2500	DESIGNED	SEE	DRAWN	SEE	CHECKED	SEE	DATE	20 04 11
DRAWING NO.	350 002	PROJECT	PORT ST JAMES AERATION LATERAL UPGRADE	CLIENT	PORT ST JAMES AERATION LATERAL UPGRADE	DESIGNER	DAYTON & NIGHT LTD.	DATE	20 04 11
SHEET NO.	04	ISSUE	C	DATE	20 04 11	ISSUE	C	DATE	20 04 11
THIS DRAWING BELONGS TO DAYTON & NIGHT LTD.									



SCALE 1:2500	DRAWING NO 330 002	SHEET NO 06	ISSUE C
THIS DRAWING REDUCED TO HALF SIZE			

UNIVERSITY OF
FORT ST. JAMES
BLOWER PUMP HOUSE DETAILS

Dugan & Knight Ltd.
CORPORATE ENGINEERS
100-10000 100-10000 100-10000 100-10000

DESIGNED BY
DRAWN BY
CHECKED BY

DESCRIPTION

DATE

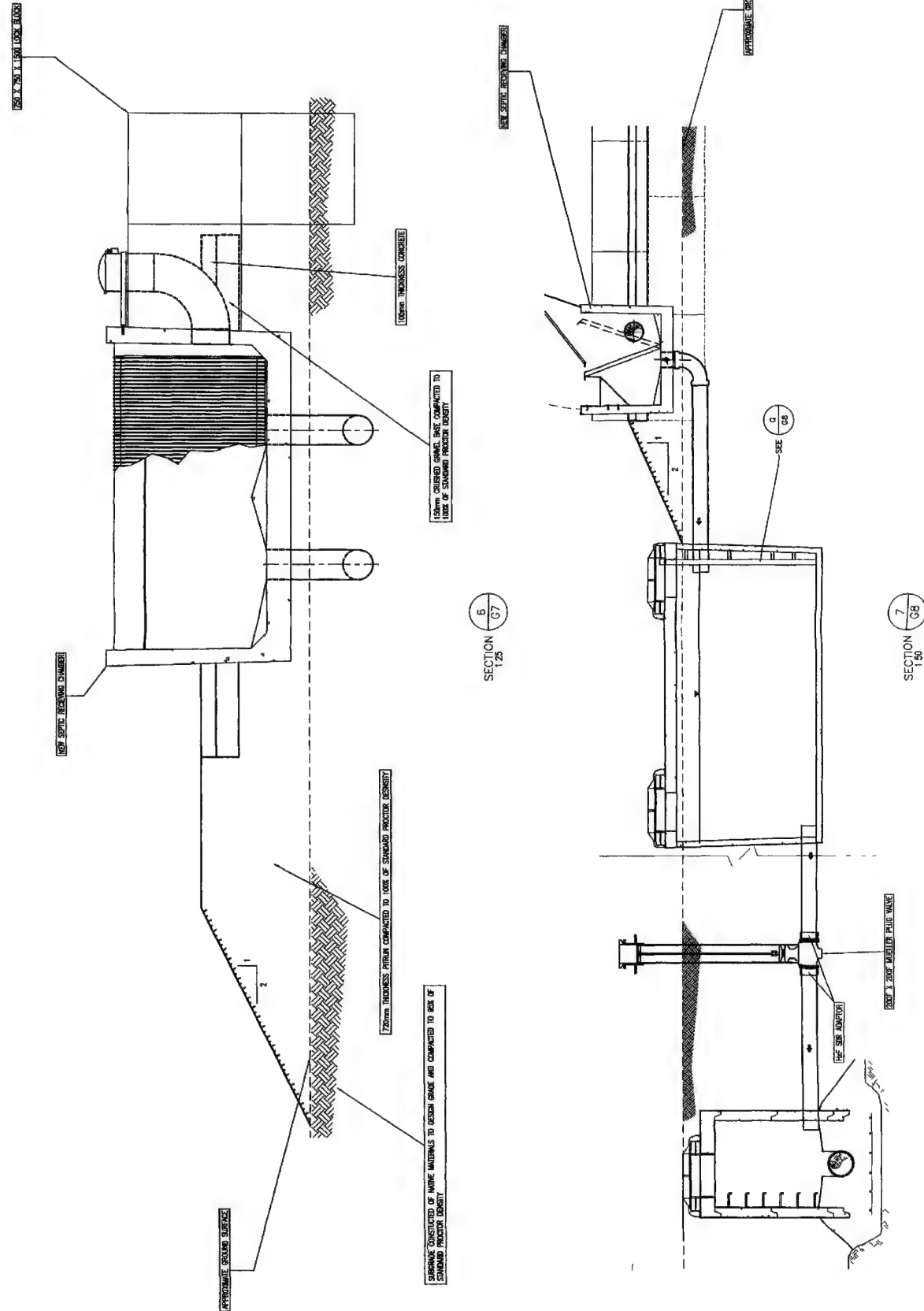
REVISIONS

ISSUED FOR TENDER
ISSUED FOR CONSTRUCTION
RECORD DRAWING

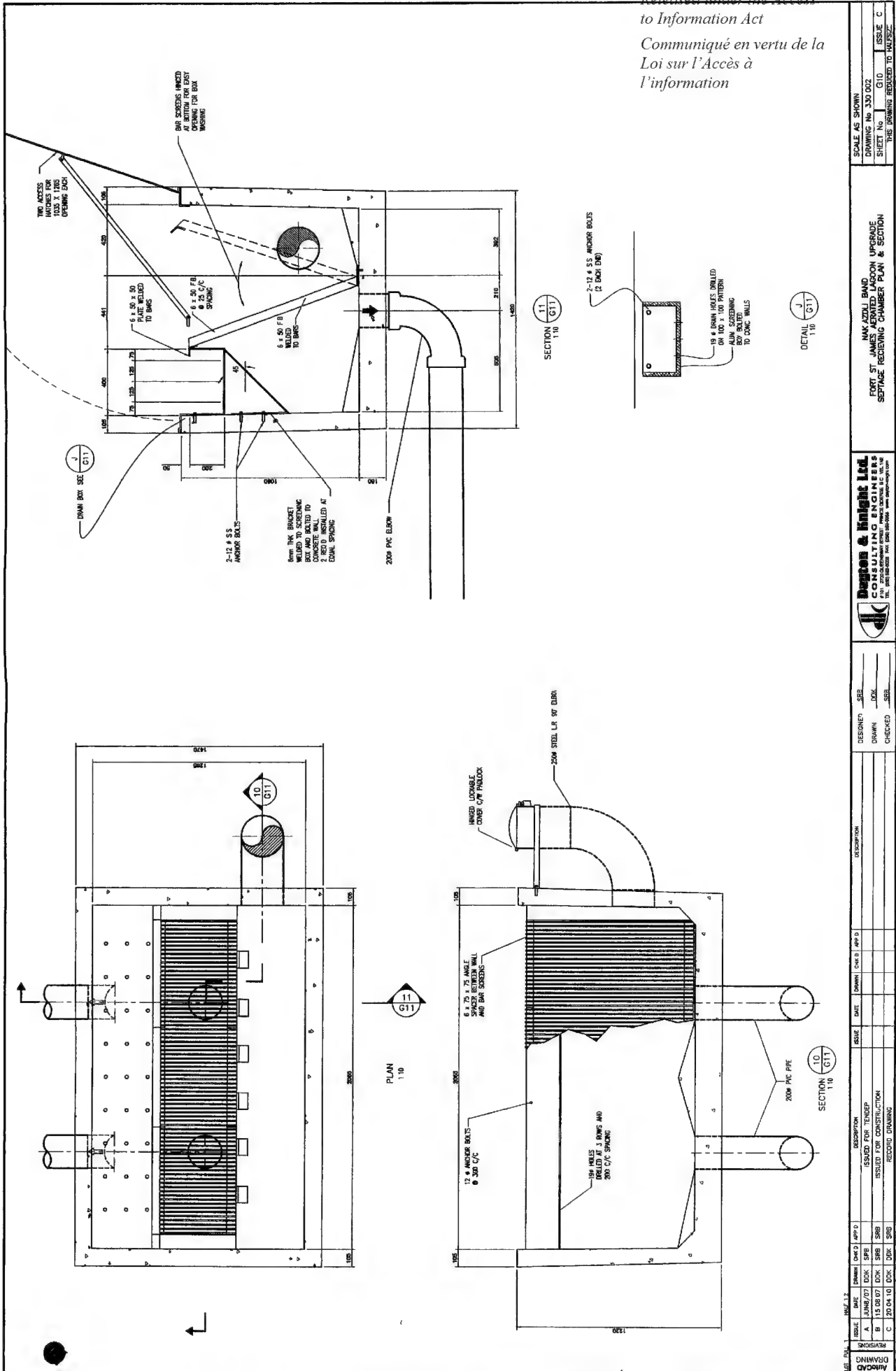
REVISIONS	DATE	BY	CHKD BY	APP'D BY
A	10/06/07	DK	SR	SR
B	13/08/07	DK	SR	SR
C	20/04/10	DK	DK	SR

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Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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March 31 1999

Sent by Fax

Chief Harold Prince
Nak Azdli Band
PO Box 1329

You 11 V éfé

25661 4 07538

FORT ST JAMES BC V0J 1P0

Dear Chief Prince

RE SEWAGE LAGOON PERMIT

Thank you for taking the time to meet with me during your visit here on March 30 1999

I wish to confirm our discussion and my understanding of Chief and Council's intentions for addressing the issues regarding the Permit. The District of Fort St James (the District) and the Band have been trying to negotiate all of these issues and are presently at an impasse. Notwithstanding the present investigation of the environmental issues and proposals for future works, the past fees owing for the Permit are to be dealt with separately. The District claims that the Band owes fees for use of the water system. The amount of fees owing and time period for calculating the amount has not yet been confirmed by Chief and Council.

Chief and Council requests that

I contact Mr Dan Zabinsky of the District to discuss past fees owing before issuing a Notice of Default and

I invite the District to collectively work together to resolve all of the issues of the Permit

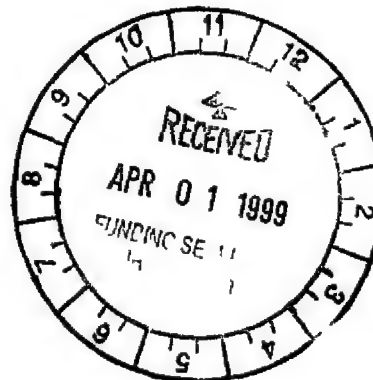
I appreciate any further information Chief and Council can provide in response to my March 12 1999 letter

Please notify me as soon as possible if I have misinterpreted any of our discussion or if you have additional comments. Once I have spoken with Mr Zabinsky I will contact you

Yours truly

Rick Sabiston
Land Management & Leasing Officer
Lands and Trust Services North
B C Region
300 1550 Alberni Street
VANCOUVER BC V6G 3C5

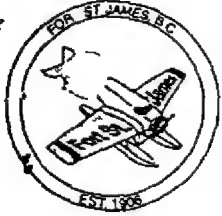
cc Lisa Webster Environmental Specialist
Brian Rundle Funding Services



Canada

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District of Fort St James

INCORPORATED 1952

♦ DRAWER 640 ♦ FORT ST JAMES B C ♦ VOJ 1P0 ♦ TEL (250) 996-8233 ♦ FAX (250) 996-2248

OFFICE OF ADMINISTRATION

FAX 250-847-1914

February 5, 1999

Dayton & Knight Ltd
P O Box 939
Smithers B C
VOJ 2N0

ATTENTION Kris Kingston

Dear Sirs

Re District of Fort St James
Sewage Treatment Lagoon Assessment

We have been approached by Department of Indian Affairs to increase the budget for the assessment to include some additional work requested by them

Specifically, DIA would like an evaluation of whether there is any seepage under or thru the lagoon into the Necoslle River They are willing to pay extra for this work to be done

Your contact will be

Adrian Joseph M Sc P Eng
Public Works and Government Services Canada
Architectural and Engineering Services
450 - 1550 Alberni Street
Vancouver, B C
V6G 3C5

Tel 604-666-4761
Fax 604-666-5159

Mr Joseph would appreciate a written quotation for the work before proceeding As well a phone call may be in order to confirm our conversation

2

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FAXED

11 19 99 2 24 1

The District of Fort St James

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l'information

-2-

If you have any questions please feel free to contact me

Yours truly,



Administrator

DZ/bi

c \wpdocs\admin\sewage



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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to Information Act
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February 18 1999

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E4380 614
O / il Not été

District of Fort St James
Drawer 640 Fort St James B C
V0J 1P0

Re Nakazdli/ Fort St James Sewer System

Dear Administrator Dan Zabinsky

It was a pleasure meeting with you and the other District representatives at the Nakazdli Band office regarding the joint sewer and water systems for the Band and District

The Department has reviewed your letter requesting funding to improve the chlorine contact chamber of the present sewage system and makes the following comments

1) Before the Department will consider funding any portion of the improvements to the sewage system the status of the terms of the present permit must be addressed. The present permit for the land that the sewage lagoons are on is between Canada and the Village of Fort St James. The terms of the permit includes annual rent to be paid to the Minister however this rent was not paid due to an informal undocumented agreement between the Nakazdli Band Council and the District of Fort St James to forgo the payment of rent as other services were supplied by the District to the residents of the reserve. Our Department received yearly Band Council Resolutions up to 1981 asking the Minister to not action the collection of this rent. For the last 18 years the Department has not collected the rent from this lease based on the informal agreement with the District. The informal agreement to waive the rent of the sewage system lease land for water is appears to no longer be satisfactory to both the Band council and the District based on our recent discussions

2) The Band Council must provide a band council resolution indicating how it wishes the Department to deal with past rents and future rents on the sewage permit. If the District and Band Council wish to work out new terms to apply to the sewage land lease then this must be done before any improvements can be considered for capital funding from our Department. The Department will also have to approve any new terms before they are accepted

3) If the Band Council and the District cannot agree on new terms of the permit then the present agreement will stand as is

4) The clause 4 of the permit agreement indicates that there are limits to the amount of use the reserve residents can have of the capacity of the sewage system and lagoons. It must be demonstrated that this capacity is exceeded before a request for funding capital improvements is

Canada

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considered The need for a capital improvement to the sewage system also must be directly attributed to the increased usage by the reserve residents to be considered for full funding by the Minister The chlorination chamber improvement appears to be a joint benefit to the District and the Band and would be reasonable to be cost shared once the back rent and new permit terms issues are addressed

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6) The sewage treatment lagoon Assessment being carried out by Dayton & Knight for the District will be reviewing the design and possible necessary upgrade of the sewage lagoons Is it not premature to assume that the twinning of the chlorination chamber is an optimal solution before the study is completed The Department would like the Dayton and Knight study to be completed and confirm that the feasibility of the additional chlorination unit is necessary before we consider providing capital funding for this project

7) The Department prefers that the District deals directly with the Band Council and Band Administration on the sewage and water issues rather than with us direct Once the permit issues are dealt with then the Band Council can make a submission for capital funding for sewage and water system improvements to our Department Any funds provided would be paid directly to the Band to be used for the capital projects

Please call me to discuss and clarify any of these issues at 604 775 5935 Please call Rick Sabiston Lands Officer at 604 666 3142 in regards to the specific permit issues

Sincerely



Brian J Rundle
Funding Services Officer
Department of Indian and Northern affairs
BC Region
#300 1550 Alberni St Vancouver BC V6G 3C5

cc Chief Harold Prince Nakazdli Band Council Adrian Joseph, District Engineer RPS
Rick Sabiston Lands officer INAC Rick Senger Manager Technical Services CSTC
Don Durrard Capital specialist INAC

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District of Fort St James

INCORPORATED 1862

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OFFICE OF ADMINISTRATION

FAX (604) 666-2046

February 8, 1999

Department of Indian Affairs
Brian Rundle Funding Services Officer
#340 - 1550 Alberni Street
Vancouver B C
V6G 3C5

Dear Brian

Thank you for attending our meeting on January 28 1999 to discuss our water and sewer services

As mentioned in the meeting the District will be twinning the chlorine contact chamber in order to upgrade the capacity of the lagoon This letter is to request that this project be considered for funding by your department

I have asked that L & M Engineering from Prince George forward to you all of the pertinent engineering data as well as the preliminary plans The original plans for the lagoon noted that the capacity was there for a population of between 5 000 and 10 000 Over the years however, we have noticed that the chlorine contact chamber capacity is much less thereby creating a bottleneck In order to maintain a greater capacity it was determined that a doubling of the size of the contact chamber would ensure suitable capacity for many years

The cost of the project is estimated to be \$120 000 00 Section 4 of the original lease sets out the terms whereby the federal government would pay for capital improvements We feel that the chlorine contact chamber upgrade falls under this section

2

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-2-

I would be pleased to discuss this matter with you at any time

Yours truly,



Administrator

DZ/bl

c:\wpdocs\admin\lagoon



201 1840 Third Avenue
Prince George B C
V2M 1G4
Tel (250) 562 1977
Fax (250) 562 1967

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Date 12 June 1997
File 1022 24 01

District of Fort St James
PO Box 640
Fort St James British Columbia
V0J 1P0

COPY

Attention Mr Dan Zabinsky

Reference Lagoon Disinfection System
Proposed Upgrading
Capital Brief

Dear Mr Zabinsky

Further to our recent telephone conversation we enclose a Capital Brief outlining the need for the proposed upgrading basic design criteria, and estimated capital costs We trust that the attached will meet your present requirements

Yours very truly
L&M ENGINEERING LIMITED

S N Lawrence M Eng P Eng
Principal

Is/ty m to p i l b r f

**DISTRICT OF FORT ST JAMES
NECOSLIE I R. NO 1**

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**LAGOON DISINFECTION SYSTEM UPGRADING
CAPITAL BRIEF**

JUSTIFICATION

Under normal conditions all treated effluent from the Fort St James/Necoslie I R No 1 lagoon passes through a serpentine chlorination chamber. Chlorination is flow paced by a 150mm diameter magnetic flow metre located immediately upstream of the chamber. The chamber is designed to provide one hour detention time at a flow of 1 820m³/d in accordance with B C Ministry of Environment requirements. Dechlorination is accomplished in a small aerated cell downstream of the chlorination chamber.

In the spring of 1997 flows entering the lagoon system were estimated to be 3 000m³/d resulting in a theoretical detention time in the chamber of approximately 36 minutes which could result in inadequate disinfection of the effluent. Of even more importance there was not sufficient available head to drive the observed flows through the piping upstream of the chlorination chamber and the chamber itself. Consequently the water level in Cell 4 immediately upstream of the chlorination chamber rose and it became obvious that it was going to overflow its berms. Calculations showed that approximately 1.23 metres (4.02 feet) of head loss was required to achieve a flow of 3 000m³/d. The level in the dechlorination cell (Cell 5) was lowered as much as possible (0.42 metres 1.38 feet) without running the risk of chlorinated effluent being discharged to the Necoslie River to maximize the available head loss.

After consultation with the provincial Ministry of Environment treated effluent was pumped from Cell 4 to Cell 5 at a rate of approximately 2 290m³/d (350 igpm) thus bypassing the chlorination process. (During this bypass operation, chlorination of the effluent passing through the chamber was maximized to the extent allowable by the equipment.) This bypass continued on an intermittent basis until the influent flows decreased and the water levels in Cell 4 returned to more normal operating levels.

DESIGN FLOW RATE

The overall design of the lagoon system calls for it to be constructed in 2 equal phases each phase having a design flow of 1 820m³/d. Therefore we believe that the new facilities should be constructed to handle an additional 1 820m³/d.

PROPOSED FACILITIES

The proposed works include the following:

- replace existing magnetic flow meter with a Parshall flume to minimize head loss
- construct a new 76m³ chlorination contact tank
- construct a flow splitting chamber to split the flow passing through the flume in half diverting 50% to each chamber
- make piping changes to the chlorination system

CAPITAL COST ESTIMATE

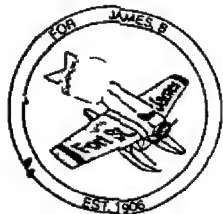
The capital cost has been estimated at \$110 000 based upon construction in 1997

Flume chamber structure	\$ 5 300 00
Flume and electronics	15 000 00
New chlorination chamber	41 700 00
Piping changes	10 000 00
Diversion (diving charges etc)	<u>2,000 00</u>
<i>Subtotal</i>	<i>\$74 000 00</i>
<i>Contingencies (25%)</i>	<i><u>18,500 00</u></i>
<i>Subtotal</i>	<i>\$92 500 00</i>
<i>Engineering (15%)</i>	<i><u>13,875 00</u></i>
<i>TOTAL (Say)</i>	<i><u>\$110,000 00</u></i>

**Pages 445 to / à 446
are withheld pursuant to section
sont retenues en vertu de l'article**

20(1)(b)

**of the Access to Information Act
de la Loi sur l'accès à l'information**



District of Fort St James

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OFFICE OF ADMINISTRATION

FAX 250-847-1914

February 5, 1999

Dayton & Knight Ltd
P O Box 939
Smithers B C
V0J 2N0

ATTENTION Kris Kingston

Dear Sirs

Re District of Fort St James
Sewage Treatment Lagoon Assessment

We have been approached by Department of Indian Affairs to increase the budget for the assessment to include some additional work requested by them

Specifically DIA would like an evaluation of whether there is any seepage under or thru the lagoon into the Necoslle River They are willing to pay extra for this work to be done

Your contact will be

Adrian Joseph, M Sc P Eng
Public Works and Government Services Canada
Architectural and Engineering Services
450 - 1550 Alberni Street
Vancouver, B C
V6G 3C5

Tel 604-666-4761
Fax 604-666-5159

Mr Joseph would appreciate a written quotation for the work before proceeding As well a phone call may be in order to confirm our conversation

2

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If you have any questions please feel free to contact me

Yours truly,



ADMINISTRATOR

DZ/bl

c \wpdocs\admin\sewage



February 18 1999

You / Il Votre / éle

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O / Il N / éle nc

District of Fort St James
Drawer 640 Fort St James B C
V0J 1P0

Re Nakazdli/ Fort St James Sewer System

Dear Administrator Dan Zabinsky

It was a pleasure meeting with you and the other District representatives at the Nakazdli Band office regarding the joint sewer and water systems for the Band and District

The Department has reviewed your letter requesting funding to improve the chlorine contact chamber of the present sewage system and makes the following comments

- 1) Before the Department will consider funding any portion of the improvements to the sewage system the status of the terms of the present permit must be addressed. The present permit for the land that the sewage lagoons are on is between Canada and the Village of Fort St James. The terms of the permit includes annual rent to be paid to the Minister however this rent was not paid due to an informal undocumented agreement between the Nakazdli Band Council and the District of Fort St James to forgo the payment of rent as other services were supplied by the District to the residents of the reserve. Our Department received yearly Band Council Resolutions up to 1981 asking the Minister to not action the collection of this rent. For the last 18 years the Department has not collected the rent from this lease based on the informal agreement with the District. The informal agreement to waive the rent of the sewage system lease land for water is appears to no longer be satisfactory to both the Band council and the District based on our recent discussions.
- 2) The Band Council must provide a band council resolution indicating how it wishes the Department to deal with past rents and future rents on the sewage permit. If the District and Band Council wish to work out new terms to apply to the sewage land lease then this must be done before any improvements can be considered for capital funding from our Department. The Department will also have to approve any new terms before they are accepted.
- 3) If the Band Council and the District cannot agree on new terms of the permit then the present agreement will stand as is.
- 4) The clause 4 of the permit agreement indicates that there are limits to the amount of use the reserve residents can have of the capacity of the sewage system and lagoons. It must be demonstrated that this capacity is exceeded before a request for funding capital improvements is

considered The need for a capital improvement to the sewage system also must be directly attributed to the increased usage by the reserve residents to be considered for full funding by the Minister The chlorination chamber improvement appears to be a joint benefit to the District and the Band and would be reasonable to be cost shared once the back rent and new permit terms issues are addressed

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Please call me to discuss and clarify any of these issues at 604 775 5935 Please call Rick Sabiston Lands Officer at 604 666 3142 in regards to the specific permit issues

Sincerely



Brian J Rundle
Funding Services Officer
Department of Indian and Northern affairs
BC Region
#300 1550 Alberni St Vancouver BC V6G 3C5

cc Chief Harold Prince Nakazdli Band Council Adrian Joseph District Engineer RPS
Rick Sabiston Lands officer INAC Rick Senger Manager Technical Services CSTC
Don Durrard Capital specialist INAC

February 18 1999

250-996-2288

E4380 614

District of Fort St James
Drawer 640 Fort St James B C
V0J 1P0

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Sincerely

Brian J Rundle
Funding Services Officer
Department of Indian and Northern affairs
BC Region
#300 1550 Alberni St Vancouver BC V6G 3C5

cc Chief Harold Prince Nakazdli Band Council Adrian Joseph District Engineer RPS
Rick Sabiston Lands officer INAC Rick Senger Manager Technical Services CSTC
Don Durrard Capital specialist INAC

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To	Public Works, Pacific Region 450 1550 Alberni Street Vancouver B C V6G 3C5	Date February 16 1999 File 1407 04/1 Facsimile 666 5159
Attention	Adrian Joseph, M Sc P Eng	
Reference	Draft Review of Nak'azdli Water Study	
From	Andrew Karsai	
Copy	Brian Rundle FSO INAC Follow up By Mail No	Facsimile 666 5159 Page 1 of 12

Dear Sir

The following is a draft copy of our report for your comments

We will return the report including computer models upon completion of the assignment

Regards

g/j

BRIAN

Please Review. Thanks
particularly Cost Sharing concepts.

Adrian

Public Works and Government Services Canada
Review of Options Based on Nak azdh Water Study

DRAFT

File 1407 41
February 16 1999

1 IMPACT OF USING 10 YEAR DESIGN HORIZON

L&M Engineering Limited (L&M) used a 15 year design horizon. The impact of sizing the various elements of the water supply and distribution system for either a 10 or 20 year design horizon as it relates to the Nicoslie I R No 1 are as follows

	<u>10 Year</u>	<u>15 Year</u>	<u>20 Year</u>
Water distribution system	none	base case	none
Reservoir size	6%	base case	+5%
Water supply demand	12%	base case	+10%

Based on the above there is minimal difference between a 10 and 15 year design horizon for the Nicoslie I R and even less of a difference as it relates to cost since cost does not change linearly with capacity

2 SATISFYING EXISTING FIRE FLOWS

A number of scenarios were modelled by L&M. The most relevant is the modelling carried out as per the instructions of Public Works Canada. This assumed

no supply flow from the well (i.e. power failure)
water level in reservoir at 0.3 m above reservoir floor
existing network as is

The modelling indicated that the existing system can meet the fire flow demands of the Nicoslie I R but not those of Fort St James

Modelling carried out with the supply pump on indicated that the existing system cannot fully meet the fire demand of the Nicoslie I R and that it has reduced ability to meet fire flows in Fort St James. We fail to fully understand the explanation given for this anomaly (i.e. that the pressure of the pump reduces the flow from the reservoir). However L&M do not advocate shutting off the well pump during a fire (page 20 of report)

It would appear that existing fire flows can be met for the Nicoslie I R subject to the caveat in Item 6 below

Public Works and Government Services Canada
Review of Options Based on Nak azdli Water Study

DRAFT

File 1407 41

February 16 1999

3 SATISFYING FUTURE FIRE FLOWS

All modelling of future fire demand are based on having the well supply pump on

A review of Table 3 6 of the report suggests that the future fire demand within the Nicoslie I R is comparable to present fire demand (1500 Igpm vs 1300 Igpm) The increased future water use of both communities however renders the existing reservoir too small to provide the fire storage volume that would meet the fire demand of the Nicoslie I R

4 COST OF JOINT SYSTEM

L&M developed costs for several configurations relating to water source and reservoir locations They ranged in cost from \$853 000 (new supply pump at existing well and second reservoir at existing reservoir site) to \$1 340 000 (two well sites and two reservoir sites) These costs exclude upgrading of the distribution system in Fort St James for fire fighting purposes (about \$740 000) Costs include 20% contingencies 10% engineering and exclude GST

We note that the proposed configurations exclude the following

Provision of chlorination and/or possible water treatment

Addition of chlorination and /or water treatment would further favour a single well site (i e two wells adjacent to each other each capable of supplying maximum day demand) adding per our estimate about \$46 000 for chlorination to that least cost option

The need and cost of water treatment is discussed in Item 7

An additional cost item would be the installation of a second well and pump in addition to upgrading of the existing well pump to supply future maximum day demand (as per INAC Guidelines)

Public Works and Government Services Canada
Review of Options Based on Nak azdli Water Study

DRAFT

File 1407 41

February 16 1999

5 COST OF SEPARATE SYSTEMS

The cost developed by L&M for a separate system to serve the Nicoshe I R is \$1 080 000 This includes a separate feed line to the reservoir (\$218 000) To this must be added development of a second standby well (as per INAC Guidelines) at an estimated cost of \$238 000 and possibly chlorination at \$46 000 This will bring the total cost to around \$1 364 000

The cost developed by L&M for a separate system to serve Fort St James is \$790 000 excluding a standby well adjacent to the existing one (\$120 000 as per L&M estimate) and excluding the cost of upgrading the distribution system for fire fighting purposes (another \$740 000 as per L&M estimate) Their costs exclude chlorination and dedicated feed line to the reservoir

6 NEED FOR A NEW RESERVOIR

We have assessed the need for a new reservoir (based on INAC Guidelines) on the premise that it need only meet the fire demand of the Nicoshe I R It must however meet the present equalization and emergency storage needs of both communities since the use of the well is shared between the two communities The present demand based on interpolation of information presented in L&M's report is calculated as follows

Equalization storage of 192 960 Igal (>7 600 Igal for the Nicoshe I R and
135 600 Igal for Fort St James)

Fire flow for the Nicoshe I R or 156 000 Igal (1 300 Igpm for 2 hours)

Emergency storage of 87 300 Igal

The total storage volume needed to meet existing demand is calculated at 436 260 Igal This exceeds the capacity of the existing reservoir (400 000 Igal)

From the above it appears that the existing reservoir is slightly undersized to serve the present needs of the combined community

Public Works and Government Services Canada
Review of Options Based on Nak azdli Water Study

DRAFT

File 1407 41
February 16 1999

7 SHORT TERM MEASURES TO IMPROVE THE BAND'S WATER SUPPLY & FIRE PROTECTION

Assuming that the District of Fort St James cannot afford to participate in a cost sharing program the short term measures available to the Band to improve its water supply and fire protection are as follows

Distribution system No improvements required

Water Supply The existing well pump cannot supply the maximum day demand of the community (450 Igpm versus estimated maximum day demand of 536 Igpm in Year 2000) Thus a new pump is required

Reservoir As per Item 6 above there is an existing shortfall of 56 260 Igal in existing capacity To meet the Band's 10 year growth demand an additional 85 000 Igal of capacity is needed Thus a total additional capacity of 121 260 Igal would be called for It should be noted that this additional volume cannot be allocated to the Band and will thus also be available for use by the District Thus the District would gain benefit at no cost

8 POSSIBLE COST SHARING FORMULA

The water system consists of three components

Distribution system
Water supply well(s) and pump(s)
Reservoir(s)

The sizing of the distribution system and reservoir are largely based on fire flow which differ considerably between the two communities The well water supply size is more closely linked to actual demand in each community

Another consideration in developing a cost sharing formula is the status of any existing agreements between the two communities For example has the Band contributed to the cost of the existing water supply system If not were there offsets negotiated between the two parties

whereby the Band paid for the cost of the wastewater treatment facility in exchange for accessing the water supply

For purposes of this evaluation we have assumed that any capital costs incurred to date by either party do not form part of future cost sharing arrangements

A number of cost sharing formulas are possible These can be based on

- Projected population
- Agreed upon percentage split (say 50/50)
- Projected flow
- Relative benefit to each community
- Combinations of the above

For this particular situation no single formula appears feasible as explained below

8.1 DISTRIBUTION SYSTEM

The District of Fort St. James needs to upgrade sections of its distribution system to meet fire flow demand while the Nicoslie I.R. does not require to carry out any upgrading. Thus the upgrading of the distribution system in the District is of no benefit to the Band. No cost sharing is proposed for this component.

8.2 WATER SUPPLY

The water supply is sized to handle maximum day demand and the Band accounts for about 40% of the projected future demand. A cost sharing arrangement based on flow would result in the Band paying about 40% of the cost of any improvements to the existing well and pump and of a new standby well and pump.

The new standby well should be located at the optimum location regardless of municipal boundaries. Based on the study by Piteau & Associates the bulk of the aquifer lies outside the Reserve and a logical and cost effective location for the new standby well is adjacent to the existing well.

Public Works and Government Services Canada
Review of Options Based on Nak azdli Water Study

DRAFT

File 1407 41

February 16 1999

Assuming that a new well is developed adjacent to the existing well and that it is connected directly to the distribution system, as is the current well the Bands contribution would amount to \$84 000 which is 40% of \$211 000 based on extractions from L&M cost estimates

Installation of a dedicated line to the reservoir and/or installing a new well at a distance from the existing well will increase costs

8.3 RESERVOIR

The combined storage needs for both communities is estimated at 1 556 000 lgal of which 1 134 000 lgal (73% of the total storage needs) is accounted for by the fire flow demand in Fort St James

If each community had its own reservoir the one serving the District would be four times the size of that serving the Band. Thus a cost sharing based on reservoir volume allocation would limit the Bands financial contribution to the total storage demand of a communal reservoir to 25%.

The large storage needs for the District are a result of the high fire flow criteria adopted. A re-evaluation of this criteria is called for in conjunction with an assessment of the fire fighting capacity of the District.

Adoption of less stringent fire flow criteria (i.e. 3 000 l/gpm for 3 hours) could reduce the fire storage needs of the District by 50% thereby bringing the storage needs of the District down from four times to about 2.5 times that of the Nicoslie I.R. The Bands financial contribution to the total storage demand of the communal reservoir would rise to 40%.

Assuming that the fire storage needs of the District can be reduced by about 50% a new 600 000 lgal reservoir would be needed (versus the 1 153 000 lgal currently proposed). The least costly location for such a reservoir is adjacent to the existing reservoir and its cost would be less than the \$792 000 budgeted by L&M (say \$740 000). The Bands share of the cost would amount to 40% or \$296 000 (or 25% of \$792 000 which equals \$196 000)/

Public Works and Government Services Canada
Review of Options Based on Nak azdli Water Study

DRAFT

8.4 DISCUSSION

The relative benefit to the Band of a communal system is greater than to the District. The cost to the Band for a communal system will be around \$380 000 versus \$1 080 000 for a similar but separate system without a second source of water. The cost to the District of a communal system will be around \$543 000 (\$973 000 minus \$50 000 for reduced reservoir size minus \$380 000 for Band's contribution). This compares with \$910 000 for a similar but separate system for the District with the standby well and \$790 000 for a separate system without standby well. Costs exclude water distribution upgrading of \$740 000.

Thus the Band would save about \$700 000 while the District would save anywhere from \$250 000 to \$360 000. Considering the large difference in relative benefit to each community, the cost sharing formula would have to be adjusted to reduce the differential.

Assuming a 50/50 cost sharing arrangement, the cost to each community would be around \$500 000. This would result in a saving of about \$400 000 for the District and around \$580 000 for the Band.

Another type of cost sharing arrangement could be based on offsetting capital costs against annual operating costs. For example, the Band could assume a larger share of the capital cost and be exempted from paying annual operation and maintenance costs for a period of years. We understand that the annual levy on each household is around \$400 to cover water, sewage and garbage collection. Assuming about 100 existing houses on the Reserve plus an additional fifty to be built in the next ten years, total levies over 20 years would amount to around \$1 000 000.

9 MOST ECONOMICAL SOLUTION FOR THE BAND

The most economical solution for the Band is to participate in a joint system with the District of Fort St. James. This is also the most economical solution for the District.

10 WATER QUALITY

- 1 The well water is not chlorinated.
- 2 During the meeting of January 28 1999 at Nak azdli Community Hall, the Band voiced dissatisfaction with the water quality, particularly its colour and odour. It was agreed

during the meeting that the Band's water main flushing program should be co-ordinated with the District's flushing program to ensure that the sediments are blown off and not moved into the dead ends of the grid that samples should be taken at downstream locations with least circulation before flushing and after flushing and that sampling should be representative of both communities. Additional blow off piping should be installed if necessary.

- 3 Further discussion with the District's superintendent of works confirmed that the inside surfaces of water pipes show an orangey slimy film. In contrast the reservoir floor shows no deposit. The film is believed to be the result of bacteria growing in the distribution system. Such bacteria can impart an unpleasant taste and odour to the water. Bacteriological growth can be prevented by chlorinating the well water. Chlorine also readily oxidizes hydrogen sulphide which results in the unpleasant rotten egg odour reported. Trihalomethanes (THMs) may be formed when water is chlorinated and a test to evaluate the THM formation potential should be carried out prior to any chlorine addition.
- 4 After the meeting the District forwarded to NovaTec analytical results for a well water sample collected at the well house on February 5 1998. The following accendences were noted:

The turbidity of the water is 6 NTU which exceeds maximum acceptable concentration of 1 NTU set by the Guidelines for Canadian Drinking Water Quality.

The iron concentration of the well water is 0.37 mg/L which is slightly above the limit of 0.3 mg/L set by the Guidelines For Canadian Drinking Water Quality.

Turbidities of up to 5 NTU are allowed if it can be shown that such high turbidities do not interfere with disinfection. The well water meets bacteriological requirements and a limit of 5 NTU would therefore be acceptable.

The iron concentration is only slightly above the recommended limit. Additional sampling should be carried out to ensure that the slightly elevated analytical result is not due to analytical variability.

Public Works and Government Services Canada
Review of Options Based on Nak azdli Water Study

DRAFT File 1407 41
February 16 1999

- 5 Manganese greensand filtration may be used to remove iron and turbidity. In addition, this treatment process would remove hydrogen sulphide contained in the well water. One method of operating manganese greensand filters is by continuously dosing potassium permanganate into the raw water feed. The permanganate ion is a strong oxidant and would therefore provide some level of disinfection. If properly operated, permanganate is completely removed in the filter and no residual remains in the water. Thus it does not impart a taste onto the water but it also does not provide a residual for continued disinfection as chlorine does. As a result, any bacteria growing in the distribution system would not be killed. Water main swabbing and disinfection would have to be carried out in order to remove the slimy film. The use of potassium permanganate does not result in the generation of THMs.
- 6 Additional sampling should be carried out before implementation of any water treatment. As a minimum, water samples should be analyzed for iron, turbidity and sulphide (requires a separate sampling bottle with a preservative). A heterotrophic plate count should also be carried out. Samples should be collected at the well and at the end points of the system, particularly in areas with frequent complaints. It may also be possible that proper system flushings and other maintenance may result in acceptable water.
- 7 Installation of a separate water treatment system for the Band is not feasible as part of a communal system since the water treatment facility has to be located ahead of the reservoir to avoid over sizing of the treatment plant.
- 8 Preliminary cost estimate for a water treatment plant to serve the Nicolsie I.R. is \$600 000, while for a communal system it is \$800 000.

11 SUMMARY OF COSTS

Table 1 summarizes the cost of the various scenarios discussed in this report.

12 OTHER ISSUES

- 12 1 The assumptions used in establishing the fire flow demand for the Fort St James Hotel (4 200 Igpm for 4 5 hours) and the townhouses (3 600 Igpm) appear to be excessively conservative resulting in a significant financial penalty for Fort St James in terms of reservoir size and upgrading needs of the distribution network While the costs of upgrading the distribution network does not directly impact the Band (as they would not contribute to its cost) the cost of the reservoir does The distribution network upgrading cost for Fort St James might indirectly impact the Band if it reduces the financial ability of Fort St James to pay for shared components such as the second reservoir and the second well
- 12 2 The reasoning for increasing the Band contribution to water demand from 27% in 1995 (which roughly corresponded to its population representation) to 39% in the Year 2015 (when its population contribution reaches 31%) needs to be clarified
- 12 3 We concur with L&M's recommendation to install a second well However we believe that the existing well should also be upgraded to provide full standby pump capacity The new well location should be based on economical considerations and should not necessarily need to be located on the Reserve The optimum location for the new well would be adjacent to the existing well
- 12 4 Consideration should be given to the installation of a standby generator at the well
- 12 5 The formula for sizing the storage reservoir is different from the one found in the INAC Guidelines It results in slightly smaller reservoir size

Table 1

**NICOSLIE I R NO 1 DISTRICT OF FORT ST JAMES
WATER SYSTEM**

Preliminary Costs

Description	Basic System	Standby Well	Chlorination	Water Treatment
Nicoslie Separate System	\$1 080 000	\$238 000	\$46 000	\$600 000
Fort St James Separate System	\$790 000	\$120 000	\$46 000	N/A
Integrated System	\$853,000	\$120,000	\$46 000	\$800,000

Note

- 1 Costs are based on L&M 1997 Water Feasibility Study and NovaTec estimates for chlorination and water treatment
- 2 Costs include 20 / contingencies 10 / engineering and exclude GST
- 3 Standby well chlorination and/or treatment are add on to the basic system
- 4 Costs exclude \$740 000 for upgrading distribution system of Fort St James



201 1840 Third Avenue
Prince George B C
V2M 1G4
Tel (250) 562 1977
Fax (250) 562 1967

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Loi sur l'Accès à
l'information

Date 27 February 1998
File 1022 24 02
1022 27 02

District of Fort St James
389 Stuart Drive West P O Box 640
Fort St James British Columbia
VOJ 1P0

COPY

Attention **Mr Dan Zabinsky**
Clerk Treasurer

Reference **1 Expansion of Chlorination Chamber**
2 Upgrading of Douglas Avenue from 5 Corners to Nahounlie Creek
Engineering Budgets

Dear Mr Zabinsky

Further to discussions with Lars Sabbe and yourself we are pleased to provide you with estimates of engineering costs for these two projects

1 Expansion of Chlorination Chamber

This project would involve the design of a second chlorination chamber at the sewage lagoons. Works would include replacement of the inlet piping, revisions to the chlorination system including addition of a second solution pump, and providing a mirror image design of the existing chlorine contact chamber. We understand that District forces will undertake this work. Therefore we have not allowed for preparation of technical specifications or contract documents, nor for tendering, periodic inspections or contract administration. We have allowed for initial layout of the chamber, one inspection trip during construction and one commissioning trip with our electrical subconsultant. We have also allowed for as built drawings following completion of the project.

Based upon these assumptions, we estimate our fees to be \$5 200 00 (plus GST) for design and \$3 000 00 (plus GST) for construction phase services and as built drawings.

District of Fort St James
Mr. Dan Zabinsky

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l'information 1022 27 02

2 Upgrading of Douglas Avenue

This project will include widening Douglas Avenue from 5 Corners to Connolly Street. Curb and gutter, underground storm sewer discharging to both Nahounlie Creek and the existing storm sewer on Stuart Drive, installation of a 300 mm (12 inch) diameter water main, and a school bus drop off are to be included in the design. We understand that the District will construct the underground works, carry out any minor earthworks and construct the pitrun gravel sub grade. Tenders will be called for construction of the curb and gutter, crushed gravel road base and asphalt.

Our design work will include initial site survey, preparation of design drawings of all works, preparation of a materials list for the underground works, preparation of technical specifications and contract documents for the surface works, liaison with Ministry of Transportation and Highways, BC Hydro, BC Tel and Pacific Northern Gas, including all necessary permits, calling tenders on behalf of the District, reviewing tenders and making a written recommendation for award.

During construction we will provide layout for the District's crews on an as required basis (we have estimated five trips), continuous inspection during the installation and contract management. We have not allowed for materials and compaction testing.

We will also prepare as built drawings following construction.

Our estimate for design work, including expenses, is \$19 000.00 (plus GST). Construction phase services and as built are estimated to cost \$18 000.00 (plus GST) including expenses. We will bill the District on a monthly progress billing basis only for time spent on this project.

We will start on the chlorination chamber design immediately and will begin the survey of Douglas Avenue as soon as the snow melts.

If you have any questions, please contact the writer.

Yours very truly
L&M ENGINEERING LIMITED


Principal

Isif NFSJ me LE g Budg ts 26feb98

**ENGINEERING LIMITED**

201 1840 Third Avenue
Prince George B C
V2M 1G4
Tel (250) 562 1977
Fax (250) 562 1967

Date 27 April 1998
File 1022 24 02

District of Fort St James
389 Stuart Drive West P O Box 640
Fort St James British Columbia
VOJ 1P0

Attention Mr Lars Sabbe
Public Works Superintendent

COPY

Reference Chlorination Chamber Expansion

Dear Mr Sabbe

As you are aware our design approach to the expansion of the chlorination chamber has been to essentially design a mirror image of the existing structure with appropriate minor modifications. This was predicated on the apparent good appearance of the existing structure. As discussed we were going to substitute plywood decking for the 2x6 planks used on the existing structure because of the difficulty with accessing the existing chamber. Because of the wide spacing (1 0 metre) of available supports in the existing structure we felt that a new deck structure design would be required to avoid excessive deflections and thus asked Allnorth Engineering to sketch an appropriate design. At the same time we asked them to quickly review the existing design for conformance to current design codes.

They have reported back that the existing structure does not meet existing structural design codes for water retaining environmental structures. Therefore the new structure needs to be designed structurally. This will add a maximum of \$4 500 00 plus GST to our costs. Please advise that this is acceptable and then we will advise Allnorth Engineering to proceed.

Please give me a call to discuss this at your earliest convenience.

Yours very truly
L&M ENGINEERING LIMITED

for S N Lawrence M Eng P Eng
Principal

s.19(1)



ENGINEERING LIMITED

85
201 1840 Third Avenue
Prince George B C
V2M 1G4
Tel (250) 562 1977
Fax (250) 562 1967

E4380-614 BROW
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l'information

Date 8 February 1999
File 1022 24 02

Indian and Northern Affairs Canada
Suite 340 1550 Alberni Street
Vancouver British Columbia
V6G 3C5

Attention Mr Brian Rundle, F S O

**Reference District of Fort St James
Chlorine Contact Tank Expansion**

Dear Mr Rundle

At the request of Mr D Zabinsky we are forwarding herewith the following documents pertaining to this project

Print of Dwg No 001

Print of Dwg No 002

Letter to D Zabinsky dated 12 June 1997 containing a Capital Brief

Letter to D Zabinsky dated 27 February 1998

Letter to L Sabbe dated 27 April 1998

We would be pleased to discuss the design with yourself and other I N A C staff at your convenience (I will be away from the office for the week of 15th February 1999)

Yours very truly

L&M ENGINEERING LIMITED

John Lawrence M. Eng. P. Eng.
Principal

copy to D Zabinsky District of Fort St James

02 15 99 PM 10 13 2930

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l'information

Carrier Sekani Tribal Council
Technical Services Unit
#200 - 1460 Sixth Avenue
Prince George BC V2L 3N2

File No 614-5 05**FAX COVER SHEET****DATE** January 26 1999**TO** Val O Connal
Nak azdli Band**PHONE** 250 996 7171
FAX 250 996-2248 8010**TO** Sara Sam
Nak azdli Band**PHONE** 250 996 7171
FAX 250 996-2248 8010**TO** Bruce Prince
Nak azdli Band**PHONE** 250 996 7171
FAX 250 996 2248 8010**TO** Dan Zabinsky
District of Fort St James**PHONE** 250 996 8233
FAX 250 996 2248**TO** → Brian Rundle
INAC**PHONE** 604 775 5935
FAX 604 666 2046**FROM** Rick Senger**PHONE** (250) 562 8999
FAX (250) 562 0900**RE** Water Study Meeting between Nak azdli Band INAC & District

cc

Number of pages including cover sheet 1**Message**This meeting has been arranged for January 28th in Fort St James

At approximately 10 45 INAC and the Band will meet at the Nak azdli Band Office

At 12 00 (or possibly sooner) INAC the District and the Band will meet at the Nak azdli Band Office The reason for the lunch time meeting is that the Mayor must leave by 1 00 Therefore the meeting may be reconvened in the afternoon after a late lunch if all issues have not been addressed

Original to follow by mail ☐

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l'information

File No 614-5-05

Carrier Sekani Tribal Council
Technical Services Unit
#200 - 1460 Sixth Avenue
Prince George BC V2L 3N2

FAX COVER SHEET

DATE January 21 1999

TO Val O Connal
Nak azdli BandPHONE 250 996 7171
FAX 250-996-2248TO Dan Zabinsky
District of Fort St JamesPHONE 250 996 8233
FAX 250 996-2248TO Brian Rundle
INACPHONE 604-775 5935
FAX 604 666-2046 ✓

FROM Rick Senger

PHONE (250) 562-8999
FAX (250) 562 0900

RE Water Study Meeting between Nak'azdli Band INAC & District

cc

Number of pages including cover sheet 1

Message

This meeting has been arranged for January 28th in Fort St James

At 11 00 INAC and the Band will meet at the Nak azdli Band Office

At 2 00 INAC the District and the Band will meet Suggested location is the Nak azdli Band Office

Please confirm your attendance for the above meeting(s)

Thanks

Original to follow by mail ☐

THIS AGREEMENT made in triplicate this eleventh day
January A D 1971

BETWEEN

HER MAJESTY THE QUEEN in right
of Canada hereinafter called
Her Majesty

OF THE FIRST PART

AND -

The Corporation of the VILLAGE
OF FORT ST JAMES in the Province
of British Columbia hereinafter
called the Permittee

OF THE SECOND PART

WHEREAS the Permittee has applied to use and occupy a
part of Necoslie Indian Reserve No One (1) in the Province of
British Columbia

AND WHEREAS the Council of the Necoslie Band of Indians
for whose use and benefit the said Reserve has been set apart
has by Resolution dated July Seventeenth 1968 recommended
approval of the application

NOW THEREFORE the Minister of Indian Affairs and Northern
Development hereinafter called The Minister on behalf of Her
Majesty under authority of Section 28(2) of the Indian Act Chapter
I-6 Revised Statutes of Canada 1970 doth hereby grant the Permittee
its successors and assigns the right to

- (a) construct operate and maintain a sewage lagoon and sewage
trunk line on the lands being part of Necoslie Indian Reserve
Number One in the Province of British Columbia which may
be more particularly described as follows

DESCRIPTION

FIRSTLY In British Columbia in Range 5 Coast District in
Necoslie Indian Reserve Number 1 Lot 220 according
to Plan 56188 in the Canada Lands Surveys Records at

-2-

Ottawa a copy of which is deposited in the Land
Registry Office at Prince Rupert as DF 18994

said Lot containing 25 18 acres more or less

SECONDLY In British Columbia in Range 5 Coast District
in Necoslie Indian Reserve Number 1 a sewer
pipeline right of way according to Plan 56135 in the
Canada Lands Surveys Records at Ottawa said right
of way containing 1 70 acres more or less

(b) generally to do all acts necessary and incidental to the
business of the Permittee in connection with the foregoing

IT IS AGREED AND UNDERSTOOD that the aforesaid
permission is granted on the following terms and conditions to which
the Permittee agrees

1 That the Permit shall be for a term of forty (40) years
from the first (1st) day of August 1968 to the thirty-first (31st)
day of July 2008

2 That the Permittee shall pay the sum of Six Hundred
(\$600 00) Dollars on or before the execution hereof as a fee
for the first year and thereafter annually in advance the sum of
Six Hundred (\$600 00) Dollars for the next nine (9) years and
thereafter during the remainder of the term as is herein provided
by paragraph three (3) hereunder

3 That the fee for the second ten year period of the
term beginning August 1 1978 and for each subsequent ten year
period shall be negotiated prior to the commencement of each such
ten year period In conducting such negotiations the parties
shall assume that the fee will be a fair economic fee and that
the lands are lands in the same state as they were on the first
day of August 1968 In the event of disagreement on the fee to
be paid for any of the succeeding ten year periods mentioned
heretofore the Permittee shall have the right to refer this matter
to the Federal Court of Canada to determine the fee based upon the
same assumptions hereinbefore provided

- by Waver
by BCR with
1981
- no BCR after
that

1998 now just
was \$13000/year

4 That the Minister shall have the right to utilize the sewage system for all present and future residential industrial tourist and commercial development on the said Reserve provided that any such user of the system pays the monthly user fee levied by the Permittee of One Dollar and Fifty Cents (\$1 50) per household unit or equivalent In consideration of a capital cost contribution of \$25 227 00 paid by the Minister of Indian Affairs and Northern Development as to the Necoslie Band a share of the cost of sewer trunk mains pump station and treatment facilities on Reserve the Permittee shall and does guarantee the Necoslie Band Twenty (20%) per cent use of the total capacity of the sewer system trunk sewer lift station and force main capacity up to a population equivalent of 1 000 persons on the said Reserve and sewage lagoon and outfall capacity up to a population equivalent to 400 persons on the Necoslie Indian Reserve No 1 Provided however should such use by the Minister cause the Permittee to make capital improvements to the said works or cause the cost of maintenance of the said works to the Permittee to increase then the Minister shall pay to the Permittee all such costs of improvements or maintenance provided that Parliament approve the expenditure of such additional moneys

5 The Permittee shall be responsible for the normal maintenance of the sewage lagoon and trunk lines

6 That in the event that the Permittee abandons the sewage system it shall revert to the Minister at no cost

7 That the Permittee shall clean up any rubbish or debris following the construction installation of the works or repairs or maintenance thereof

8 That the Permittee shall have the right to pass and repass over existing Reserve roads and trails to such extent as may from time to time be reasonably required by the Permittee for the purposes of ingress and egress to and from the right-of-way

9 That where there are no existing roads or trails suitable for that purpose the Permittee shall have the right to pass and re-pass over land within the Reserve elsewhere than on existing roads and trails for the purpose of ingress and egress to and from the sewer lagoon and the sewage trunk line subject to approval by the route by the Council of the Necanic Band of Indians and of any Indian locatees in possession of such land over which the Permittee passes or re-passes such approval not to be unreasonably withheld The Permittee shall compensate Her Majesty for any loss or damage incurred by the said Band or Indian locatees by reason of the exercise by the Permittee of its rights under this clause

10 That Her Majesty shall not without the prior consent of the Permittee which shall not be unreasonably withheld erect or place any building or structure or park roadway over the right-of-way or to do any act or knowingly permit to be done any act that would interfere with or injure the works nor diminish the soil cover on the pipes installed or carry on blasting on or adjacent to the lagoon or the right-of-way

11 That the Permittee shall comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewer lagoon and trunk line

12 That the rights hereby granted shall be used by the Permittee for the purposes aforesaid and for no other purpose

13 That it shall be lawful for the Minister or any person thereunto authorized by him at all reasonable times to enter upon the right-of-way for the purpose of examining the condition thereof

14 That the Permittee shall at all times hereafter indemnify and hold harmless Her Majesty against all actions claims and demands that may be lawfully brought or made against Her Majesty by reason of any act or omission by the Permittee in the exercise or purported exercise of the rights hereby granted

-3-

15 That the Permittee shall not assign or sublet
the rights hereunder without the written consent of the
Minister

16 That this permit may be terminated by the Minister
if the Permittee is in default in the performance of any of
the conditions herein contained for a period of thirty days

17 That the Permittee shall pay and discharge all rates
duties and assessments whatsoever now charged or hereafter to
be charged upon the said permit area or upon the said Permittee
or occupier in respect thereof or payable by either in respect
thereof

18 That no member of the House of Commons shall be
admitted to any share or part of the within Permit or to
any benefit to arise therefrom

19 Time shall be of the essence

20 That no waiver on behalf of Her Majesty or Her
Successors or any breach shall take place or be binding unless
the same be expressed in writing over the signature of the
Minister or the signature of His Deputy and any waiver so
expressed shall extend only to the particular breach to which
such waiver shall specially relate and shall not be deemed to be
a general waiver or to limit or affect the rights of Her
Majesty or Her Successors with respect to any or other future
breach

s.19(1)

IT IS FURTHER AGREED that this permit shall be subject
to the provisions of the Indian Act and Regulations established
hereunder which may be not in force or which may hereafter be
made and established from time to time in that behalf by the
Governor-in-Council

IN WITNESS WHEREOF the Director Indian-Eskimo Economic
Development Branch Department of Indian Affairs and Northern
Development on behalf of Her Majesty the Queen in Right of Canada
the Permittee has caused these presents to be executed and its
corporate seal to be affixed hereto by its proper officers duly
authorized in that behalf

SIGNED SEALED AND DELIVERED
in the presence of



QD Bd 136
Fort St James BC
As to the signature of the
Permittee



Permittee



SIGNED SEALED AND DELIVERED
by the Director Indian-Eskimo
Economic Development Branch in
the presence of

CO INT
BAND CONSENT ACR 17 7 69 OLICY
UPLOVED AS TO FORM
CR GA ADVISE
RECOMMENDED

J. Marion

[Signature]
Director Indian-Eskimo
Economic Development Branch



THE VILLAGE OF FORT ST JAMES

BY-LAW NO 152

1. Whereas to authorize the Village of Fort St James
to enter into an agreement with Her Majesty the
Queen in right of Canada for the use by the Village
of a portion of Necanicum Band Reservation for sewer
lagoon purposes

WHEREAS the Village has constructed a sewerage system with an
outfall to a sewer lagoon on the Necanicum Band Reservation No 1

AND WHEREAS the Village is desirous of obtaining from Her Majesty
the Queen the right to continue to maintain and operate the sewerage lagoon and
trunk sewer leading thereto over the Indian Reserve property and to pay therefor
a fair annual rent

NOW THEREFORE the Municipal Council of the Village of Fort St James
in open meeting assembled enacts as follows

1. The Village of Fort St James is hereby authorized to enter
into an agreement with Her Majesty the Queen in right of Canada
in the form annexed hereto and the Mayor and Clerk are hereby
authorized to sign the same on behalf of the Village and affix
the Village seal thereto and deliver the same as the act and
deed of the Village

2010

THE VILLAGE OF FORT ST. JAMES

BY-LAW NO. _____

WILSON, KING & COMPANY
Barristers & Solicitors
390-444 Victoria Street
Prince George B.C.

JCH: File 6-71.

01377

THE VILLAGE OF FORT ST. JAMES

BY-LAW NO. 52

A By-Law to authorize the Village of Fort St. James to enter into an agreement with Her Majesty the Queen in right of Canada for the use by the Village of a portion of Necanicum Band Reservation for sewer lagoon purposes

WHEREAS the Village has constructed a sewerage system with an outfall to a sewer lagoon on the Necanicum Indian Band Reservation No. 1.

AND WHEREAS the Village is desirous of obtaining from Her Majesty the Queen the right to continue to maintain and operate the sewerage lagoon and trunk sewer leading thereto over the Indian Reserve property and to pay therefor a fair annual rental;

NOW THEREFORE the Municipal Council of the Village of Fort St. James in open meeting assembled enacts as follows:

1. The Village of Fort St. James is hereby authorized to enter into an agreement with Her Majesty the Queen in right of Canada in the form annexed hereto and the Mayor and Clerk are hereby authorized to sign the same on behalf of the Village and affix the Village seal thereto and deliver the same as the act and deed of the Village.



INDIAN AFFAIRS BRANCH
BAND COUNCIL RESOLUTION

17/68-69
985/3-6-21, 985/6-17-21, 985/32-21
information

N T Towards From Band and us pp		I on requ tin pend tur from B nd un	
COUNCIL OF TH	NECOSLIE	FOR HEADQUARTERS USE ONLY	
ENCL	STUART LAKE		
ROYALTY	BRITISH COLUMBIA		
A	NECOSLIE INDIAN RESERVE		
DATE	SEVENTEENTH JULY AD 9 68 MONTH YEAR		

THAT a lease be drafted permitting the Village of Fort St James to construct a sewage lagoon and sewage trunk line on the Necoslie Indian Reserve No 1 as shown on Associated Engineering Services Ltd, drawings No 4017-020-SP, dated July 8th 1968 and No 4017-020-K2, dated May 29th 1968. The lease be for a forty-year term at an annual rental of Six Hundred (\$600 00) Dollars rental to be reviewed every ten years

THAT the agreement contain the following clauses:

- 1 The Band will have the right to utilize the sewage system for all present and future residential, industrial, tourist and commercial development on the Reserve. This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve
- 2 The Village of Fort St James be responsible for the maintenance of the sewage lagoon and trunk line
- 3 In the event that the Village of Fort St James abandons the sewage system, it shall revert to the Band at no cost
- 4 The Village shall have the first option to renew the lease when it expires
- 5 The sewage site and the trunk line easement shall be kept in a husbandlike manner.
- 6 The Village agrees to comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon.
- 7 Any disputes which may arise are subject to arbitration by the Exchequer Court of Canada
- 8 The lagoon area be approximately 25 3 acres, more or less

Recommend d
Indi Cmt subseq for B C

[Signature] (Cmt for)
[Signature] (Cmt for)
[Signature] (Cmt for)
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FOR HEADQUARTERS USE ONLY					
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1A 155 (S 68) 7330 21 025 4662

WILSON KING & COMPANY
ER A D SOL CTRRS

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to Information Act
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l'information

WILSON, J.
ERY, K. C. GEORGE W. BALDWIN, J.
GA, SON, TH. HAN, SCOTT
ERIC, UTLEDGE, AR, LOW
RHA, DUFFORD, ROBERT, CK
OUTNET, CLIFFORD, MAC, RTH
MAGALONEY, CASEY
BR, KS

IA & 4D
DEPARTMENTAL
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TH ORONTO, DOM TO BA LOING
VICT ST
PR CK RGE, B.C.

RAS UR FI 6-71
TO LE
EPL TIENTI J G Wilson

December 14 1972

Indian and Northern Affairs
Land Transactions Section
Ottawa Ontario K1A 0H4

Attention W V Lowry

Dear Sirs

Re Village of Fort St James
Necoslle Indian Reservation No 1
Your file No 985/8-17-21-1 (LM2)

Please find enclosed two copies of By-Law and documents now
authorized and executed by the Village I would appreciate it
if you would return one executed

Unfortunately the original was sent to the Provincial Government
and filed there together with the appropriate By-Law as required
by the Municipal Act

Yours truly

WILSON KING & COMPANY

DDP

X014167

RECEIVED FOR REGISTRATION
IN THE SURRENDERED
LAND REGISTER

JAN 8 10 54 AM '73

Necashie

INDIAN RESERVE

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1

Bc

Permit & BCR



Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

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MEMORANDUM

To S Turk
Novatec

20 Jan 1999

From A Joseph District Engineer
RPS for INAC

#2283

Subject Nak'azdli Water Study

The following responds to your recent questions about this project

- 1 Regarding fire flows the input assumptions should be checked do not undertake all the network calculations The reasonableness of the results should also be assessed Please contact Ron Green at 666 5164 regarding the required fire flows
- 2 You may contact L&M to advise them you are reviewing & expanding upon their work Feel free to ask L&M about their involvement & assumptions or derivation of fire flows
- 3 We are still waiting for your proposal as requested by G Grunau on 12 January 1999
- 4 I am advised that there is a meeting in Fort St James on Thursday 28 January that we would like to have you attend with a number of INAC personnel Please confirm that you will be able to attend

A Joseph P Eng
District Engineer
RPS for INAC
(h \adrian\Nakazdli\Water 03 wpd)
cc R Green

Canada

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Loi sur l'accès à
l'information

s.19(1)

From Adrian Joseph
To [REDACTED]
Date Mon Jan 18 1999 3 10 pm
Subject Nak azdli Water Study

[REDACTED]
I spoke to [REDACTED] of Novatec today we has some questions

1 Should the fire flows in Fort St James & on the Band lands be accepted as is or should the calculations be checked? This could be a significant amount of work

2 Did L&M develop^e the fire flows or was the information just provided by the Town of FSJ?

3 Was L&M working for the City or the Band?

I suggested that they contact L&M regarding 2 & 3 above In any case they have to advise L&M that they are reviewing their work The sooner I can have your views the better it will probably take them a couple of weeks to complete the work Do you agree with The TOR that I sent Novatec?

Thanks

Adrian



Public Works and
Government Services
Canada

Travaux publics et
Services gouvernementaux
Canada

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Divulgué en vertu de la Loi sur l'accès à l'information
A.T. SAM TURK NOVATEC
Tel 873-9262 Fax 873-2353
FROM: ADRIAN JOSEPH
(Andrew Korsac working on project)
12/27/28 Jan 99

TERMS OF REFERENCE FOR REVIEW OF
NAK'AZDLI WATER STUDY

12 January 1999

- 1 Review the Nak azdli water study report
- 2 Determine the most economical method of solving the bands water problems
This appears to be to develop a shared water system with the Town of FSJ It appears that the best technical location for a new well is off reserve because of the location of the aquifer
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- 5 Indicate cost of separate systems
- 6 Suggest a cost sharing formula for the Band & FSJ
Such a formula could be based on 50/50 split population based on relative benefit to each community etc *Water Usage*
- 7 It should be noted that fire flows in the Town of FSJ are inadequate
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- 9 If the Town of FSJ cannot afford to participate in cost sharing then what work should be undertaken to improve the Bands water supply & fire protection
- 10 Consider that harmony between the Band & the Town is a desired aim The sewage system from FSJ appears to discharge on band lands

A. Joseph

A Joseph P Eng & R Green P Eng
District Engineer Water Specialist
(h \Adrian\Nakazdli\Water 01 wpd)

Canada

Canada

PUBLIC WORKS AND GOVERNMENT SERVICES CANADA
ARCHITECTURAL AND ENGINEERING SERVICES
l'information

DATE January 12 1999

NO OF PAGES 1

(including cover page)

TO Daryl McNeil, Band Manager

Seabird Island Band

Fax 604-796-3729

cc Sam Turk - NovaTec Consultants, ^{Fax} 604-873-2353

FROM Gerry Grunau, P Eng

Municipal Engineering Group

Real Property Services for Indian and Northern Affairs Canada

#450 - 1550 Alberni Street, Vancouver, B C , V6G 3C5

PHONE 604-666-4748 FAX 604-666-5159

RE Nak'azdli Water Study, Call-up #S0-1998-17

A brief proposal is requested from NovaTec to provide technical review services and cost-sharing opinions regarding a water feasibility study prepared by L&M Engineering for the community of Nak azdli

The proposal should include

- 1 Personnel to be assigned to the project
- 2 An estimate of fees for the services to be provided
- 3 A schedule for completion of the work (Report ~ 20 Jan. 99)

A copy of the feasibility report has been sent to NovaTec for their assistance in providing a proposal

Adrian Joseph from our office [666-4761] will address any technical questions regarding this project

fax

TRANSMISSION



To Brian Rundle FSO INAC

E4380 614
651913

From Adrian Joseph P Eng District Engineer RPS for INAC

19 May 1998

Subject Water Feasibility Study (CPMS#2283)
Necoslie IR#1 & District of Fort St James

This memorandum reviews the Final Report on the Water Feasibility Study Necoslie IR#1 & District of Fort St James. In summary we agree with basic conclusions of the study & recommend that a preliminary design study be undertaken for an enhanced water system to meet the needs of both Necoslie IR#1 & District of Fort St James. A cost sharing formula is recommended.

The consultant L&M Engineering Ltd. has raised a question & N. Lapierre of RPS for INAC has commented on the first draft of the report. My responses followed by my own assessment are as follows:

Response to L&M Engineering Letter of 30 September 1997

INAC's Design Guidelines for Water Works indicate a 10 year design horizon with provision for expansion to accommodate a 20 year design. The underlying reason is that it is often difficult to project populations, particularly on remote bands. However we consider District of Fort St James & the Necoslie Band to have to be communities with fairly well defined population growth. Therefore I am comfortable designing for a 20 year horizon in this situation.

Comments on N. Lapierre Memo of 10 November 1997

The memo indicates that the pipe upsizing in Fort St James has not been carried out & this should be identified & costed separately. It is recommended that:

1. A separate new well be constructed to better serve the community as there would still be one working well if one were out of service temporarily.
2. A dedicated supply line to the reservoir be constructed. This would enable water treatment such as chlorination to entire water supply to be carried out if required.
3. Additional reservoir capacity be provided.

Other points raised include questions about the method of analysis performed. Analysis in the next stage of the design will have to meet all applicable FUS guidelines.

Observations

1. Increased pipe sizing is required in FSJ only.
2. There is a lack of fire protection in downtown FSJ because of inadequate flow. Increased pipe sizing is required.
3. Having two wells at different locations would provide a greater flow capacity than having a single improved well at one location. In addition if one well breaks down or needs to be serviced the second well would still provide a water supply albeit reduced in quantity which is a distinct advantage over a one well system. The location of the new well should be such that it has the maximum flow capacity & least interaction with the existing well. The final design study should address hydraulic interaction of the two wells & provide estimated

flows The operation of a two well system should be described in detail In view of the fact that artesian conditions do not generally exist on reserve then the best location should be determined accordingly Another factor to be considered is to minimize the distance to the new reservoir

4 Increased reservoir capacity is essential & the least cost solution is to locate the new reservoir adjacent to the existing reservoir

5 At present the following mutually beneficial situation exists

- 1 The existing well & reservoir are located in FSJ
- 2 The Band does not currently pay for maintenance of the existing well & reservoir
The Band maintains its own water distribution system
- 3 FSJ undertakes maintenance of the existing well & reservoir
FSJ maintains its own water distribution system
- 4 The sewage lagoons are located on Band property
- 5 The Band maintains its own sewerage collection system
- 6 FSJ does not currently pay for sewerage disposal
- 7 FSJ maintains the existing sewerage system

In summary this situation is a good mutually beneficial municipal agreement However this arrangement is not formalized at this time

Recommendations

1 The following work is required on the water supply system

<u>Item</u>	<u>Description</u>	<u>Benefits to</u>	<u>Funding By</u>
1	Increased pipe size in FSJ Inadequate fire protection in Reg District of FSJ	FSJ	FSJ
2	New Well increase water Supply to FSJ & Band because both require additional water Location to be such that maximum flow is achieved & min distance to reservoirs	FSJ/Band	FSJ/Band
3	New Reservoir increase water storage for FSJ & Band because both require additional water storage Locate next to existing reservoir	FSJ/Band	FSJ/Band
4	Dedicated supply line from existing well & new well to existing & new reservoirs	FSJ/Band	FSJ/Band

2 Cost sharing is recommended for proposed construction Items 2 to 4 above between FSJ & the Band

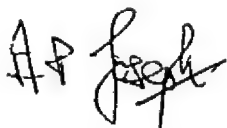
3 A Municipal type Service Agreement should be prepared for operation & maintenance of the water & sewer systems Assessments based on water usage & sewerage disposal quantities could be considered within a new Municipal type Service Agreement The same basic

arrangement as described in Observation 6 above is recommended because it is mutually beneficial to both the FSJ & Band. A fully integrated system provides the maximum amount of fire protection capacity to both FSJ & Band & it is achieved at a lower cost than separate systems.

It is recommended that the submitted report be accepted subject to the following changes being made to 5.1 Recommendations:

- 1 Construct a new well at the optimum location based on maximizing water supply quantities & minimizing the distance to the reservoirs, thereby achieving a cost effective solution.
- 4 Provide dedicated flow lines from the existing & proposed wells to the existing & proposed reservoirs.

It is recommended that a Preliminary Design be prepared & that life cycle cost analysis be prepared for the proposed water improvement system if alternate locations for the well are under consideration.



Adrian Joseph P Eng
District Engineer
cc: D Derouard CPS
N Lapierre P Eng RPS for INAC
(h \Adrian\watsys1.wpd)



MEMORANDUM

To S Turk
Novatec

20 Jan 1999

From A Joseph District Engineer
RPS for INAC

#2283

Subject Nak'azdli Water Study

The following responds to your recent questions about this project

- 1 Regarding fire flows the input assumptions should be checked do not undertake all the network calculations The reasonableness of the results should also be assessed Please contact Ron Green at 666 5164 regarding the required fire flows
- 2 You may contact L&M to advise them you are reviewing & expanding upon their work Feel free to ask L&M about their involvement & assumptions or derivation of fire flows
- 3 We are still waiting for your proposal as requested by G Grunau on 12 January 1999
- 4 I am advised that there is a meeting in Fort St James on Thursday 28 January that we would like to have you attend with a number of INAC personnel Please confirm that you will be able to attend

A Joseph

A Joseph P Eng
District Engineer
RPS for INAC
(h \adrian\Nakazdli\Water 03 wpd)
cc R Green

Page 491

**is withheld pursuant to section
est retenue en vertu de l'article**

20(1)(b)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

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Canada

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to Information Act
A-T-SAM-TURK, NOVATEC

Tel 873-9262 Fax 873-2353
Loi sur l'accès à
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FROM ADRIAN JOSEPH

(Andrew Kersae working on project)
v27/28 Jan 99

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A. Joseph

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District Engineer Water Specialist
(h \Adrian\Nakazdli\Water 01 wpd)

Canada



DATE January 12 1999

NO OF PAGES 1

(including cover page)

TO Daryl McNeil, Band Manager

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Fax 604-796-3729

cc Sam Turk - NovaTec Consultants, ^{Fax} 604-873 2353

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Canada

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45

To Brian Rundle FSO INAC

E4380 614
65193

From Adrian Joseph P Eng District Engineer RPS for INAC

19 May 1998

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Canada

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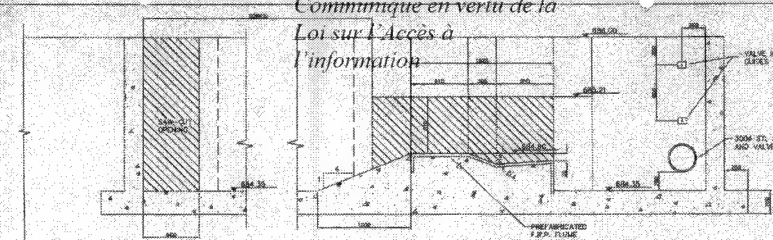
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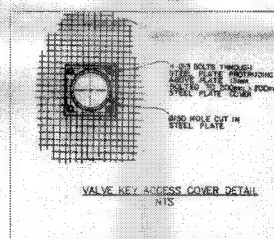
Adrian Joseph P Eng
District Engineer
cc D Derouard CPS
N Lapierre P Eng RPS for INAC
(h \Adrian\watsys1.wpd)



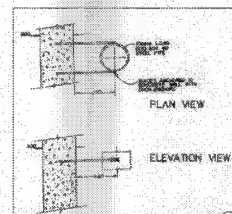
Technical drawing of a shaft with the following dimensions and labels:

- Left end: 50φ S0.030, 80 PVC PIPES
- Top left: 50φ - 70φ 80x10, 50x50
- Top center: 50 (70x3)
- Right end: 50φ S0.030, 80 PVC CAP
- Bottom right: 7 - 12φ HOLES @ 10mm o/c

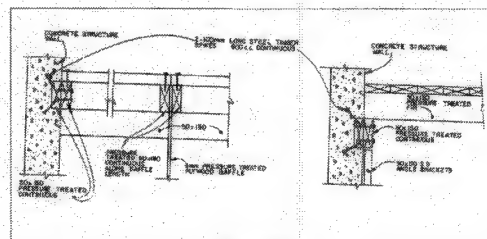
CHLORINE SOLUTION DIFFUSER PIPE



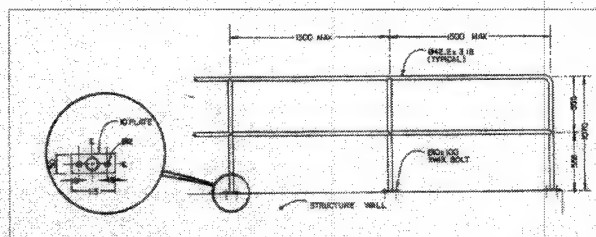
VALVE KEY ACCESS COVER DETAILS
NTS



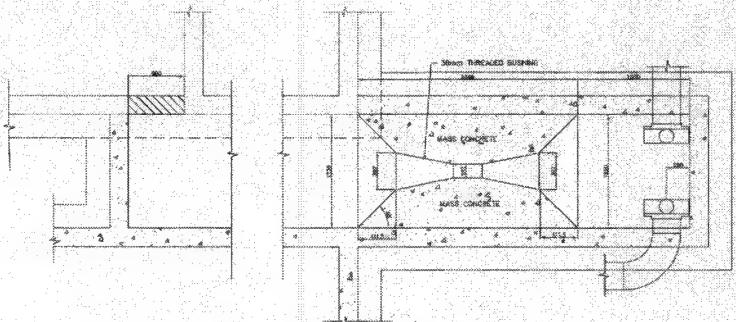
TYPICAL VALVE KEY GUIDE DETAILS



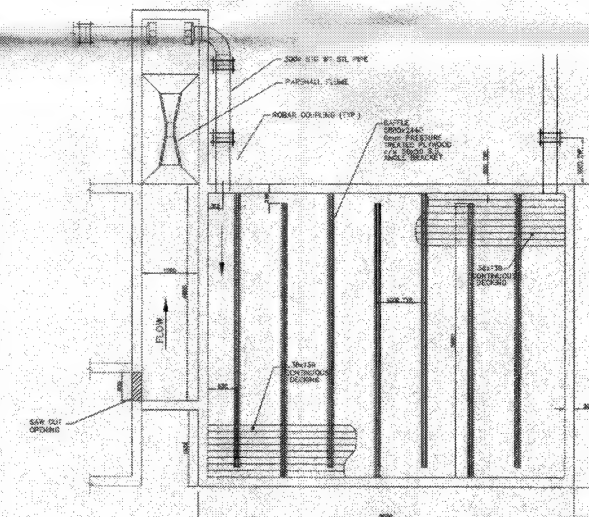
BAFFLE CONNECTION DETAILS



HANDRAIL DETAIL
NTS



FLAME PLAN AND SECTION
1:20



CHLORINE CONTACT TANK
1:50

FEB 03 1999

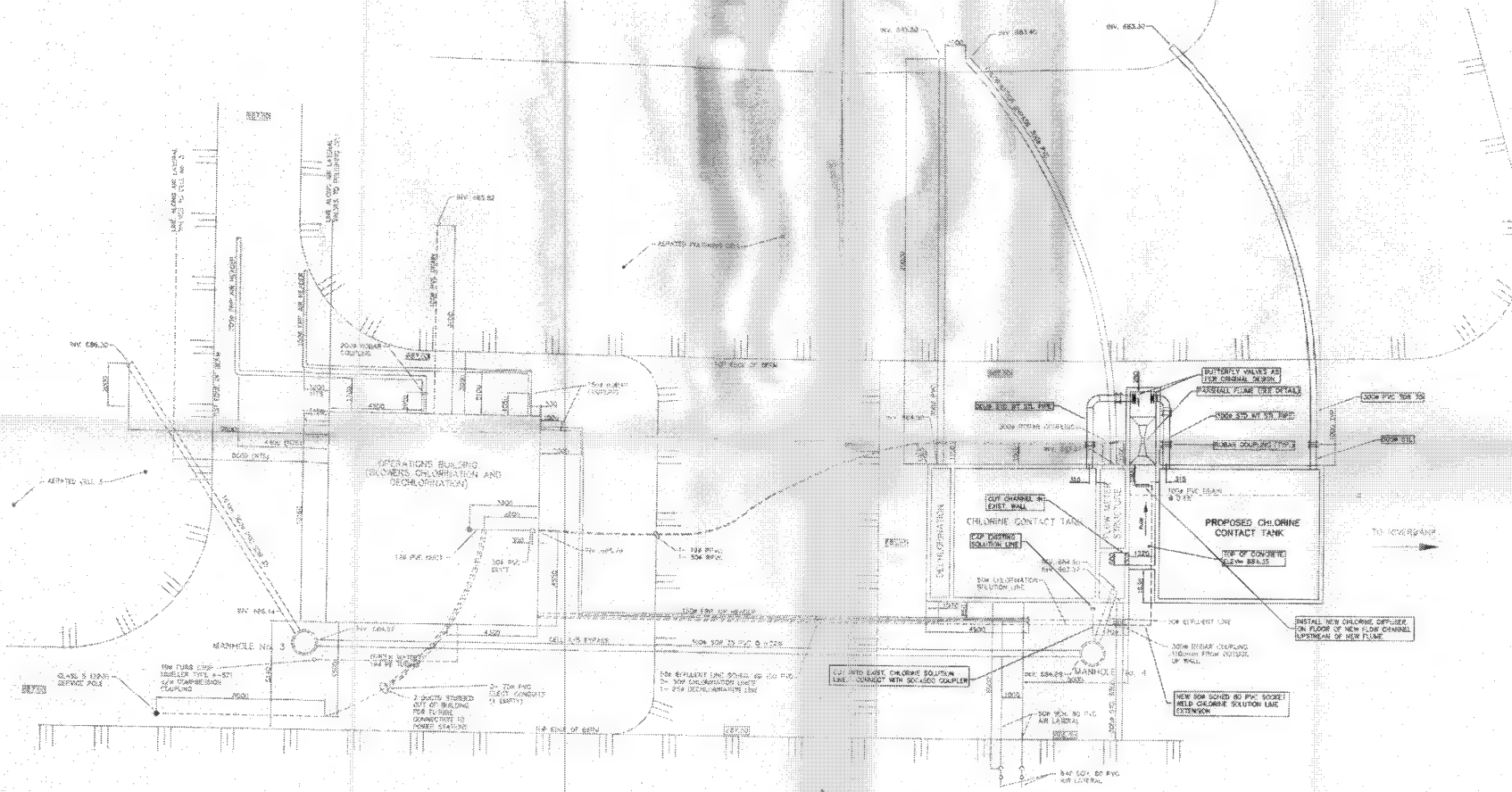
PRELIMINARY
NOT FOR CONSTRUCTION

DISTRICT OF FORT ST. JAMES
CHLORINE CONTACT TANK EXPANSION

STANDARD DETAILS

L & M
ENGINEERING, INC.
1000 15th St., N.W.
Washington, D.C. 20004
Tel: (202) 462-1800
Fax: (202) 462-1801

DATE	SCALE	DRAWN	DESIGNED	CHECKED	PROJECT No.	Doc. No.
MAR 30/88	AS NOTED	EM	SL	SL	1022-24-02	002



**PRELIMINARY
NOT FOR CONSTRUCTION**

FEB 05 1998

ACAD
DISK No.
FILE No.

DISTRICT OF FORT ST. JAMES
CHLORINE CONTACT TANK EXPANSION

SITE PLAN

L&M
ENGINEERING LIMITED

DATE	SCALE	BY	CHECKED	PROJECT No.	SHEET No.
MAR 30/98	1:100	BM	SAL	1022-24-02	001

A0429741_65-000499

PRE-DESIGN/DESIGN CHECKLIST

CPMS NUMBER:

5694

PROJECT TITLE:

Waste Water Collection TREATMENT & DISPOSAL

CAPITAL SPECIALIST:

FRANK GELINAS

DISTRICT ENGINEER:

MICHAEL DAVIES

FN CONTACT & PH #:

AILEEN PRINCE

TOTAL PROJECT COST:

672,528

FUNDING LIMIT:

218,462

APPROVED TO DATE:

	Received Date	Not Rec'd	N/A
Band transmittal	MAY 30 2001		
Feasibility report - Filed in Technical Library			✓
Pre-design Report - Filed in Technical Library			
Site/Land Requirements Defined	✓		
Land Encumbrance Check	✓		
Environmental Outline	✓		
RPS Review & Documents	✓		
Timber Permit/Requirement			✓
Project Management	✓		
Tendering Method	✓		
Operational and Maintenance Information			
Comments by Others: - Health Canada			
- Labour Canada (Fire Commissioner)			
- Other Programs (List)			
- Others			
Consultant Terms of Reference	A0430854_1-000500		
Consultant Proposal for Services	✓		

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Carrier Sekani Tribal Council

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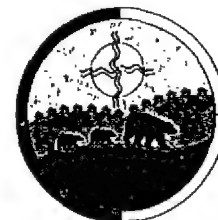
REPLY TO:

☒ PRINCE GEORGE OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206
www.cstc.bc.ca

☐ HEAD OFFICE

Wet'suwet'en First Nation
PO Box 760
Burns Lake, B.C.
V0J 1E0



December 19, 2006

File No.: 7100-614

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

EGeling S
File# *4380-614-5694*
A_B UNC XOC# *64114261*
ACL *ES-SSU*
FOLDER
cc. H. Beer

Attention: **Helen Beer, Capital Specialist**

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period October 1 to November 30, 2006.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Technical Services Coordinator
Technical Services Unit

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
Brenda Thomas, Nak'azdli Band

7100-614-5694

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		10/01/06	11/30/06
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. D&K has provided deliverables to close 1st phase of project and prepared final numbers to do project. This will be revised to enable the District to complete in phases. Band 25% is covered in design cost. Recent changes in TSU personnel have occurred. Documents have been returned to Consultant for signatures and seal. A completion report will be submitted by Feb./07.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

12/19/06

Received at DIAND by

Date

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name	Nak'azdli Band		
Project Number	5694		
Project Title	Wastewater Collection, Treatment & Disposal		
SCHEDULE FOR PROGRESS REPORTS			
Project Start Date	Progress Report for the Period:	From	To
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Completion Date	unknown		

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Project Manager authorized by First Nation's Council

Date

Received at DIAND by

Date

Carrier Sekani Tribal Council

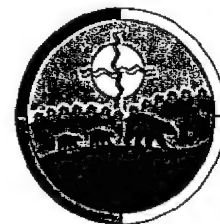
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☐ **HEAD OFFICE**

Wet'suwet'en First Nation
 PO Box 760
 Burns Lake, B.C.
 V0J 1E0



September 11, 2007

File No.: 7100-614

Indian and Northern Affairs Canada
 Suite 600 - 1138 Melville Street
 Vancouver, BC
 V6E 4S3

H. BEER
 File# 4380-614-5694
 A.B. UNC DOC# 8463283
 ACL ES-SSU
 FOLDER

Attention: Helen Beer, Capital Specialist**Re: CAPITAL PROJECT PROGRESS REPORTS**

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period July 1 to September 15, 2007.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Audrey Osterhout
 Technical Services Coordinator
 Technical Services Unit

attachments

cc: Chief Fred Sam, Nak'azdli Band
 Leona Thomas, Nak'azdli Band



07 SEP 13 AM 9:55

4480-614-5694
A-B-UNCXDOC# 727477 C2
ACLES SSU
FOLDER

CAPITAL PROJECTS COMPLETION PLAN (CPCP)

copy given to
Heather

First Nation's Name: Nak'azdli Band Council

Band Number: 614 Contact Name: E

CPMS Project #: 5694 CPMS Project name: NWWS Waste Water

Note: If the project is complete please proceed to Part B

Part A

WORK PROGRESS REPORT



Please check the stage of project

X	PHASE	Percentage (%) work done to date	Work can be completed by March 31, 2007? (Y/N)	Work needs to be carried over to next fiscal? (Y/N)
	1. FEASIBILITY	100%	Yes	Yes
	2. DESIGN	100%	Yes	Yes
	3. ACQUISITION/ CONSTRUCTION	%	No	Yes
	4. POST CONSTRUCTION	0%	No	Yes

QUESTIONS

1. Explain what work is scheduled to complete the project.

	WORK TO BE DONE	FINANCIAL REQUIREMENT	TO BE COMPLETED BY:
1		\$	
2		\$	
3		\$	

'07 APR 5 AM 10

4		\$	
5		\$	
6		\$	
7		\$	
8		\$	
9		\$	
10		\$	

Total Funding Received (as of March 31, 2006)	Funds spent to date	Funds required to meet costs to March 31, 2007	Funds required for work to be carried over to next fiscal
\$218,462	\$224,500.	\$6,038.14 Deficient of Phase 1.	\$81,948.14 Phase 2

The project is scheduled to be complete on March 31, 2008 or

2. Explain the reasons that will prevent the project from being completed before March 31st, 2007:

Some re-deigns were required. The District budgets had to be arranged to cover these costs. District funding arrangements necessitated breaking this project up into three phases. This project is a multi phase project that will not be completed until prior to the 2008 -2009 construction season.
I have attached the correspondence, and budget tables for your review. This information has been sent to Frank Gelinas, whom participated in the meetings with the Band and the District.

PART B

The project was complete (substantially complete) on March 31, 2008
(Date)

PART C

I confirm the project is within the original scope of work and that all inspections will be obtained / have been obtained by duly qualified inspectors to certify compliance with all applicable codes and standards:


Signature and Position Title

Date

April 2/07


Print name

Please ensure all Capital Project Completion Plans are signed and returned to INAC, attention: Helen Beer @ fax # 604 666 2046

Reserve to INAC

Comments:



DISTRICT OF
Fort St. James

OFFICE OF ADMINISTRATION

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to Information Act
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Box 640, Fort St. James, BC V0J 1P0
Tel. (250) 996-8233 • Fax (250) 996-2248

January 4, 2007

Nak'azdli Band
PO Box 1329
Fort St. James, BC
V0J 1P0

Attention: Brenda Thomas

Dear Ms. Thomas:

**RE: District of Fort St. James/Nak'azdli Band
Fort St. James Sewage Lagoon Upgrading
Project Phasing - 2007 Construction**



Further to our meeting of December 1, 2006, we are pleased to offer this letter confirming the District's intentions for the construction of lagoon upgrades in the 2007/2008 construction year.

The District's engineering consultant, Dayton & Knight Ltd., has reviewed the scope of the designed upgrades, the costs, and the seasonal construction limitations and recommended a construction plan for 2007/2008. We attach a copy of Dayton & Knight Ltd.'s letter of recommendations.

As explained in the letter, the District wishes to move forward with works which will provide the greatest level of benefit; one of the key objectives being the reduction in odor potential from the existing anaerobic lagoon cells.

The estimated construction budget for 2007 is \$487,000. Including costs to date for planning, design and 2005 blower construction, the total project cost is estimated to be \$736,000. The works include:

- Septage Receiving Station
- Cell 1 and 2 Desludging
- Aeration of Cells 1 and 2

The works do not include desludging of Cell 3 or new aeration to Cells 3 and 5.

The District recognizes that the Band (via INAC funding) has already paid \$82,820.87 towards project planning and design costs. The District has also invoiced the Nak'azdli Band for the amount of \$37,638.86 for 25% of the cost of the 2005/2006 blower installation. It appears that this amount remains unpaid as a result of being higher than remaining INAC funding and being invoiced prior to INAC technical approval as "Eligible for Funding."

The District wishes to plan for 2007 construction and requires confirmation of funding sources in order to confirm capital spending requirements. As per Dayton & Knight Ltd.'s recommendations, we suggest that the Band:

- Enter the District's invoice (\$37,638.86) for 2005/2006 construction costs into the Band's project costs, but only pay the remaining funding amount of \$30,736.85.
- Request funding from INAC in the amount of \$75,910.20 for the estimated balance to cover 25% of the total costs to the end of the 2007/2008 year.

With payment of the \$30,736.85 and a commitment towards the balance of 25% of the total cost, the District will be able to plan for the 2007 construction in a planned and organized fashion. We trusted this letter and attachments are sufficient for Nak'azdli and CSTC communications with INAC. Please do not hesitate to call if you require any further information.

Yours truly,



Nigel Black
Chief Administrative Officer

cc. Scott Bilbrough, P.Eng., Dayton & Knight Ltd.
Audrey Osterhout, CSTC Technical Services

**Pages 510 to / à 515
are withheld pursuant to section
sont retenues en vertu de l'article**

20(1)(b)

**of the Access to Information Act
de la Loi sur l'accès à l'information**

Communiqué en vertu de la
Loi sur l'accès à
l'information

From: "Brenda Thomas" <brendat@nakazdli.ca>
To: "Helen Beer" <beerh@inac-ainc.gc.ca>
Date: 4/3/2007 9:32:05 AM
Subject: CPMS 5694

Helen:

I have submitted the CPCP for the above mentioned project. VIA Fax and original in the mail.

I hope that I have explained the situation in the report. The project to my understanding has three phases, the majority (75%) of the cost is covered by the District and 25% by the Band. Due to limited funding the District can not afford to do the project all at once. Financially, the District needed to break the project into phases. During that time Frank Gelinis participated in the meetings with the District and the Band and was aware of the situation.

If you require further information, or clarification please contact me.

Brenda Thomas
Nak'azdli Band

Carrier Sekani Tribal Council

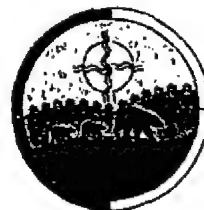
REPLY TO:

☒ **PRINCE GEORGE OFFICE**

1460 - 6th Avenue
 Prince George, B.C. V2L 3N2
 Phone: (250) 562-6279
 Fax: (250) 562-8206
 www.cstc.bc.ca

☐ **HEAD OFFICE**

Wet'suwet'en First Nation
 PO Box 760
 Burns Lake, B.C.
 V0J 1E0



December 19, 2006

File No.: 7100-614

Indian and Northern Affairs Canada
 Suite 600 - 1138 Melville Street
 Vancouver, BC
 V6E 4S3

F. Gelinas
 File# 4380-614-5694
 A_B UNC DOC# C1
 ACL ES-SSU
 FOLDER
Cc. H. Beer

Attention: Helen Beer, Capital Specialist**Re: CAPITAL PROJECT PROGRESS REPORTS**

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period October 1 to November 30, 2006.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Audrey Osterhout
 Technical Services Coordinator
 Technical Services Unit

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
 Brenda Thomas, Nak'azdli Band

780 DEC 22 2006

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date	Progress Report for the Period:	From	To
01/18/02		10/01/06	11/30/06
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. D&K has provided deliverables to close 1st phase of project and prepared final numbers to do project. This will be revised to enable the District to complete in phases. Band 25% is covered in design cost. Recent changes in TSU personnel have occurred. Documents have been returned to Consultant for signatures and seal. A completion report will be submitted by Feb./07.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

12/19/06

Reviewed by

Date



Indian and Northern
Affairs Canada

www.inac.gc.ca

Affaires indiennes
et du Nord Canada

www.ainc.gc.ca

VANCOUVR-#603432-v1-614_5694_NAK'AZDL_WASTEWATER_TREATMENT_REVIEW_MEMO_FOR_COST_SHARING.WPD
INAC, Professional & Technical Services
1401, 1138 Melville Street
Vancouver, BC
V6E 4S3
Phone : 604-666-5167
Fax: 604-666-5159

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Your file - Votre référence

Our file - Notre référence

Memorandum

File: E4380-614-5694 , Reading File

Date: November 9, 2006

To: **Helen Beer**

cc: Frank Gelinis

From: Don Fyfe

Subject: NWWS Nak'azdli Wastewater Collection, Treatment & Disposal CPMS #5694

This file was forwarded November 3, 2006 for PTS review of a request for additional INAC funding. The funding is the Band's 25% cost share contribution to the District of Fort St. James for improvements to the existing sewage treatment lagoons. The improvements include the replacement of blowers, removal of sludge, addition of bubble aeration system and construction of a septage receiving chamber. The treatment system serves both Nak'azdli and Fort St. James and is located on reserve lands leased to the District of Fort St. James.

A review of the file indicates that previous funding of \$218,462 in Jan/02 included the band's 25% share in the amount of \$104,904.28 debt repayment for the existing works, plus design fees in the amount of \$110,250 to upgrade the existing treatment works plus CSTC project management fees of \$3,308.

A July 13/06 letter from Dayton & Knight Ltd. indicates the following updated costs for work complete and estimated costs for work to be completed:

Item	Completed Construction	Completed Engineering	Pending Construction	Pending Engineering
Replace Blowers	\$105,860	\$124,740		
Sludge removal			\$110,000	
Bubble aeration system			\$346,500	\$35,180
Septage receiving chamber			\$148,500	\$32,980
Total Costs	\$105,860	\$124,740	\$605,000	\$68,160

		25% Band's Share
Total Completed	\$230,600	\$57,650
Total Pending	\$673,160	\$168,290
Debt repayment		\$104,904
Total	\$903,760	\$330,844
INAC Funding to date		\$218,462
Funding Required		\$112,382

Funding is supported. However, there is no cash flow of funds required at this time? Administrator Brenda Thomas at Nak'azdli advises the Band has to date expended \$187,725 leaving a balance held by the Band of \$30,737. Carol Campbell, P.Eng., of Dayton and Knight advises that the only work anticipated prior to March 31/07 is the re-tendering of the septage receiving chamber for construction in the spring. She confirmed that the District is phasing the work to meet their financing and may complete de-sludging and bubbler aeration system installations one lagoon at a time.

It is suggested that Nak'azdli and the District meet to finalize cash flow requirements. The Band must expend (or return to INAC) the current balance held by March 31/07 - perhaps via payment of the re-tendering costs as an advance toward the Band's 25% share of the septage chamber. The Band should then request additional future cash flows from INAC based on the District plan for installation of the bubbler systems.

Copies of paid invoices and the Band's Certificate of Completion for Capital Projects should be obtained upon project completion.

PWGSC FOR INAC
Capital Projects Review Document

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Capital Project Management System #5694

A. PROJECT DATA:

First Nation: Nak'azdli Recipient #: 614
Project Name: Improvement Wastewater Collection,
Treatment & Disposal Syst Reserve: _____
FSO: _____ Total Project Cost: \$ 903,760
CPS: ~~Geline Frank~~ Helen Beard FTA (Yes / No): _____

B. SUBMISSION:

Feasibility: ☐ Pre-Design Design: ☐ Acquisition / Construction: ☒ Post Completion: ☐
Funding Limit: _____ \$330,844
Contingency: _____ \$0

Project Proposal: Yes ☒ No _____
Environmental Assessment: Yes _____ No _____
Land Encumbrance: Yes _____ No _____

N/A ☒ *up grade of existing works*
N/A ☒

C. REVIEW SUMMARY:

	Meets	Does Not Meet	N/A
Level of Service Standards	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Applicable Design Standards	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cost Effectiveness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implementation Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Environmental Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The above-noted project proposal has been reviewed in accordance with departmental standards and its compliance to those standards is indicated above. **Where the proposal does not meet established standards, an explanation is provided in an attached memorandum dated:** CIDMS # 603432

PROPOSED PROJECT PRIORITIZATION: 29 (MTSA type)

Don Jyle
PWGSC for INAC
PJS

Nov 9/06
Date

St. 62: 25% of \$1,868,400 = \$467,100
 100% of \$1,868,400 = \$1,868,400
 25% of \$1,868,400 = \$467,100
 151,205

		25% Band's Share
Total Completed	\$230,600	\$57,650
Total Pending	\$673,160	\$168,290
Debt repayment		\$104,904
Total	\$903,760	\$330,844
INAC Funding to date		\$218,462
Funding Required		\$112,382

Funding is supported. However, there is no cash flow of funds required at this time? Administrator Brenda Thomas at Nak'azdli advises the Band has to date expended \$187,725 leaving a balance held by the Band of \$30,737. Carol Campbell, P.Eng., of Dayton and Knight advises that the only work anticipated prior to March 31/07 is the re-tendering of the septage receiving chamber for construction in the spring. She confirmed that the District is phasing the work to meet their financing and may complete de-sludging and bubbler aeration system installations one lagoon at a time.

It is suggested that Nak'azdli and the District meet to finalize cash flow requirements. The Band must expend (or return to INAC) the current balance held by March 31/07 - perhaps via payment of the re-tendering costs as an advance toward the Band's 25% share of the septage chamber. The Band should then request additional future cash flows from INAC based on the District plan for installation of the bubbler systems.

Copies of paid invoices and the Band's Certificate of Completion for Capital Projects should be obtained upon project completion.

D. PWGSC REVIEW

(a) Water Resources Engineer: Signature: _____ Date: _____

Comments: _____

(b) Environmental Engineer: Signature: _____ Date: _____

Comments: _____

(c) Elec./Mech Engineer: Signature: _____ Date: _____

Comments: _____

(d) Transportation Engineer: Signature: _____ Date: _____

Comments: _____

(e) District Engineer: Signature: Don Jffe Date: Nov 9/06

Comments: NO CASH FLOW requirement for 06/07!

E. SPECIALIST SERVICES:

Comments: _____

Manager, Specialist Services

Date

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
British Columbia Region

FIRST NATION Nak'azdli

BAND NUMBER: 614

PROJECT NAME: Improvement Wastewater Collection,
Treatment & Disposal Syst

PROJECT LOG NUMBER: 5694

SERVICE CODE: 2484

TOTAL PROJECT COST: \$903,760

FUNDING LIMIT: \$330,844

FUNDED TO DATE: \$218,462

CONTINGENCY: \$0

FUNDING REQUIRED: \$112,382

SPECIAL NOTES: Impro to Village of Ft St James Wastewater System / Band share
25% as per MTSA

LEVEL:

Feasibility:

☐

Design:

☐

Acquisition / Construction:

X

Priority Rating:

29

Note: A progress report must be provided to DIAND each quarter for projects that are not complete within
90 days of funding

CAPITAL PROJECT SUBMISSION RECOMMENDED

Senior Capital Advisor

Date: _____

CAPITAL PROJECT SUBMISSION ELIGIBLE

Manager - Special Services

Date: _____

Checklist for Design Stage Funding Application **

Project Name Nak'azdi: Sewage Treatment (cost share of Fort St. James project)
CPMS # 5694 Capital Specialist Helen Beer

	Omitted	Submitted	Not Applicable
FN Letter Supporting Feasibility		✓	
Project Description		✓	
Project Rationale		✓	
Project Implementation Plan		✓	
Feasibility Study			✓
• Filed in Technical Library			✓
Land Encumbrance Check			✓
Environmental Scoping Report		✓	
Environmental Assessment for Design Tasks		✓	
Required Permits Identified			✓
• Timber Description			✓
• Other Permits			✓
Proposed Construction Approach Identified			✓
• Initial Construction Mgmt. Business Plan			✓
O&M Capacity Assessment			✓
• Cost Estimate for O&M Manual			✓
• Cost Estimate for O&M Plan			✓
Comments by other Regulatory Agencies		✓	
• Environment Canada			✓
• Fisheries & Oceans Canada			✓
• Others <u>District of Fort St. James</u>		✓	✓
Terms of Reference for Consultant Services			✓
Proposal for Consultant Services			✓
Cost Estimate for Consultant Services		✓	
Class 'A' Total Project Cost Estimate		✓	
Cash Flow			
TB Style Submission			✓

PWGSC for INAC Reviewer: Don Fyfe

Date: Nov 7/06

** Checklists are for the use of PWGSC for INAC. Information listed may not all be required or additional information may be required.

E4300-1

November 07, 2006

Chief and Council
Nak'azdli

Dear Chief and Council:

**Re: Capital Project Number 5694
Improvement Wastewater Collection, Treatment & Disposal Syst**

I am writing to advise that the above noted capital project proposal has been entered into B.C. Region's Capital Project Management System (CPMS) and is currently under review.

You will be further advised of the status of this submission when the review has been completed. If the proposal as submitted is complete, a determination of eligibility for funding will be made once the review is complete.

If it is necessary to correspond with us regarding this project, please reference the project number noted above. If you have any questions please contact your Capital Specialist.

Yours truly,

Capital Specialist
Funding Services Directorate
Suite 600, 1138 Melville Street
Vancouver, BC V6E 4S3

cc. Funding Services Officer

**PWGSC FOR INAC
Capital Projects Review Document**

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Re-Entered 11/1/03
26

Capital Project Management System #5694

A. PROJECT DATA:

First Nation: Nak'azdli Recipient #: 614
Project Name: NWWS Wastewater Collection,
Treatment & Disposal System Reserve: _____
FSO: _____ Total Project Cost: ~~\$ 672,528~~ 903,760
CPS: Gelinas-Frank Helen Beer FTA (Yes / No): _____

B. SUBMISSION:

Feasibility: ☐ Pre-Design Design: ☒ Acquisition / Construction: ☐ Post Completion: ☐
Funding Limit: _____ \$ ~~218,462~~ 330,844 Contingency: _____ \$0

Project Proposal: Yes _____ No _____
Environmental Assessment: Yes _____ No _____ N/A _____
Land Encumbrance: Yes _____ No _____ N/A _____

C. REVIEW SUMMARY:

	Meets	Does Not Meet	N/A
Level of Service Standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable Design Standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost Effectiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implementation Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The above-noted project proposal has been reviewed in accordance with departmental standards and its compliance to those standards is indicated above. **Where the proposal does not meet established standards, an explanation is provided in an attached memorandum dated: _____.**

PROPOSED PROJECT PRIORITIZATION: _____

PWGSC for INAC

Date

D. PWGSC REVIEW

(a) Water Resources Engineer: Signature: _____ Date: _____

Comments: _____

(b) Environmental Engineer: Signature: _____ Date: _____

Comments: _____

(c) Elec./Mech Engineer: Signature: _____ Date: _____

Comments: _____

(d) Transportation Engineer: Signature: _____ Date: _____

Comments: _____

(e) District Engineer: Signature: _____ Date: _____

Comments: _____

E. SPECIALIST SERVICES:

Comments: *Pls review proposed costs estimates.*
Note Progress report dated Sept 26/06

Helen Beer

Manager, Specialist Services
Capital

Nov 1/06

Date



NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
Telephone (250) 996-7171
Fax (250) 996-8010

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October 20, 2006

F. Gelin
File# 4380-1214-5694
A_B UNCX DOC# 68012 C1
ACL FS-SSU
FOLDER
CC-D. Fife

Department of Indian &
Northern Affairs Canada
Suite 600 -1138 Melville Street
Vancouver, BC
V6E 4S3



Dear Mr. Frank Gelin:

Re:
CPMS # 5694 NWWS Waste Water

Please find the attached information from Dayton and Knight Ltd regarding the upgrade of the sewer systems for Nak'azdli Band and the District of Fort St. James.

As you are aware off, both the District and the Band would like to proceed with this project. It was also mentioned during the meeting, that the lagoon would be done in stages as identified in Dayton and Knight report.

If you have any questions, please feel free to contact myself at (250) 996-7171.

Sincerely,

Brenda Thomas
CHL - Administrator

CC: Chief - Leonard Thomas

'06 OCT 25 AM 11:22

s:19(1)



Dayton & Knight Ltd.
CONSULTING ENGINEERS



#210 - 889 Harbourside Drive, North Vancouver
British Columbia, Canada V7P 3S1
Telephone: 604-990-4800 • Fax: 604-990-4805
E-mail: dkeng@dayton-knight.com

July 13, 2006

VIA FAX (1-250-562-0900) and MAIL

Mr. Reg Mueller, ASCT
Manager Technical Services
Carrier Sekani Tribal Council
200 - 1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

Dear Mr. Mueller:

**RE: Nak'azdli Band/District of Fort St. James
Fort St. James Sewage Lagoon Upgrading
Estimate of Total Project Costs**

As requested, please find attached the following three spreadsheets which summarize the costs to date and estimated costs to complete this project:

- Table 1. Capital Cost Estimate
- Table 2. Fee Estimate for Remaining Construction Services
- Table 3. Summary of Total Project Costs

As you are aware, the project has been partially constructed (Replacement of the Blowers). Therefore, I have also attached the following spreadsheet summarizing the cost share for the District and the Nak'azdli Band, for both completed work and remaining work, and costs to date paid for by each, based on information provided by the District.

- Table 4. Summary Cost Sharing and INAC Funding

This spreadsheet also includes information regarding the remaining funding needed by the Band to complete the project, based on the discussions in our meeting of May 10, 2006.

We trust this meets your requirements. Please do not hesitate to contact us if you have any questions, or require further information.

Yours truly,

Dayton & Knight Ltd.


Carol Campbell, P.Eng.

CC/yv
403.1
Encls.

cc: Mr. Nigel Black, District of Fort St. James, By FAX 250-996-2248 and MAIL

Communiqué en vertu de la
Loi sur l'accès à
l'informationNAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694

TABLE 1: CAPITAL COST ESTIMATE

DESCRIPTION	UNIT	RATE	QTY	TOTAL
1. REPLACE BLOWERS (completed)				
Supply and deliver blowers c/w enclosure	lump sum	\$ 44,506.65	1	\$44,507
Supply and deliver VFD's	lump sum	\$ 20,754.00	1	\$20,754
Contract for Installation	lump sum	\$ 35,200.00	1	\$35,200
Misc Items	lump sum	\$ 4,736.79	1	\$4,737
TOTAL				\$105,197
2. SLUDGE REMOVAL				
Sludge Analysis	lump sum	\$ 5,000	1	\$5,000
Sludge Withdrawal (personnel, hauling and disposal)	each	\$ 15,000	3	\$45,000
Develop compost site at landfill	lump sum	\$ 30,000	1	\$30,000
Operation of compost site	lump sum	\$ 15,000	1	\$15,000
Final application of sludge to landfill	lump sum	\$ 5,000	1	\$5,000
Sub-total				\$100,000
Contingency @ 10%				\$10,000
TOTAL, excludes GST				\$110,000
3. FINE BUBBLE AERATION SYSTEM				
Mobilization/Demobilization	lump sum	\$ 45,000	1	\$45,000
Supply & install steel air header pipe	lump sum	\$ 95,000	1	\$95,000
and 2	lump sum	\$ 45,000	1	\$45,000
Supply fine bubble diffusers, valves and piping for Cell 3	lump sum	\$ 50,000	1	\$50,000
Install Diffusers and Piping - Cell 1 and 2	lump sum	\$ 40,000	1	\$40,000
Install Diffusers and Piping - Cell 3 and 5	lump sum	\$ 40,000	1	\$40,000
Sub-total				\$315,000
Contingency @ 10%				\$31,500
TOTAL, excludes GST				\$346,500
SEPTAGE RECEIVING CHAMBER				
Mobilization/Demobilization	lump sum	\$ 10,000	1	\$10,000
Construct Septage Receiving Chamber	lump sum	\$ 85,000	1	\$85,000
Vehicle Access Road	lump sum	\$ 15,000	1	\$15,000
Lock-Block™ Retaining Wall	lump sum	\$ 25,000	1	\$25,000
Sub-total				\$135,000
Contingency @ 10%				\$13,500
TOTAL, excludes GST				\$148,500
TOTAL, ALL PHASES				\$710,197

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**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 2: FEE ESTIMATE FOR REMAINING CONSTRUCTION SERVICES

	D&K Staff					Total
	Principle	Project Engineer	Inspector	Drafting	Word Processing	
Hourly rate (\$)	\$ 150.00	\$ 110	\$ 75	\$ 75	\$ 50	

Septage Receiving Station/De-sludging

Engineering Fees						
Administer Tender Calls	15	30			10	\$ 6,050
Assistance with Regulatory Approvals	4	40				\$ 5,000
Resident Inspection Services			40			\$ 3,000
Engineering/Contract Administration	15	75			12	\$ 11,100
Post construction documents	4	8	6	12		\$ 2,830
Sub-total Hours	38	153	46	12	22	
Sub-total Fees	\$ 5,700	\$ 16,830	\$ 3,450	\$ 900	\$ 1,100	\$ 27,980

Disbursements

Travel, Engineer Site Visits					\$ 1,500	
Travel and Accommodation for Inspector					\$ 2,000	
Tel, Fax, Courier					\$ 250	
Reproductions					\$ 250	
Material Testing					\$ 1,000	
Sub-total Disbursements						\$ 5,000
Total Fees and Disbursements						\$ 32,980

Aeration Upgrade

Engineering Fees						
Administer Tender Calls	25	50			10	\$ 9,750
Resident Inspection Services			60			\$ 4,500
Engineering/Contract Administration	25	75			12	\$ 12,600
Post construction documents	4	8	6	12		\$ 2,830
Sub-total Hours	54	133	66	12	22	
Sub-total Fees	\$ 8,100	\$ 14,630	\$ 4,950	\$ 900	\$ 1,100	\$ 29,680

Disbursements

Travel					\$ 1,500	
Travel and Accommodation for Inspector					\$ 2,500	
Tel, Fax, Courier					\$ 250	
Reproductions					\$ 250	
Material Testing					\$ 1,000	
Sub-total Disbursements						\$ 5,500
Total Fees and Disbursements						\$ 35,180

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**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 3: SUMMARY TOTAL PROJECT COSTS

	Capital Costs	Engineering	Total Cost
COSTS TO DATE			
Pre-design/Design			
Pre-design Sampling Program		\$ 26,000.00	\$ 26,000.00
Design, Lagoon Upgrade		\$ 32,150.00	\$ 32,150.00
Design, Septage Receiving Station		\$ 5,200.00	\$ 5,200.00
Environmental Assessment		\$ 15,415.00	\$ 15,415.00
Additional Design Documents*		\$ 10,825.00	\$ 10,825.00
Additional Meeting in Fort St. James, May 2005		\$ 2,500.00	\$ 2,500.00
Sub-total Sampling and Design Phase		\$ 92,090.00	\$ 92,090.00
Construction			
Blowers	\$ 105,197.44	\$ 30,150.00	\$ 135,347.44
Sludge Sampling/Misc Costs	\$ 662.14		\$ 662.14
Additional Meeting in Fort St. James, May 2006		\$ 2,500.00	\$ 2,500.00
Sub-total Construction	\$ 105,859.58	\$ 32,650.00	\$ 138,509.58
TOTAL COSTS TO DATE	\$ 105,859.58	\$ 124,740.00	\$ 230,599.58
ESTIMATED COST TO COMPLETE			
Construction			
Septage Receiving Station/Sludge Removal	\$258,500.00	\$ 32,980.00	\$ 291,480.00
Fine Bubble Aeration Upgrade	\$ 346,500.00	\$ 35,180.00	\$ 381,680.00
Total, Estimated Cost to Complete	\$ 605,000.00	\$ 68,160.00	\$ 673,160.00
Total Estimated Project Cost	\$ 710,859.58	\$ 192,900.00	\$ 903,759.58

* O&M Manual and Contingency Plan

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l'information

**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 4: SUMMARY COST SHARE & INAC FUNDING

Funding and Cost Allocation Summary	To Date	Estimated to Complete	Total
Total Estimated Project Cost	\$ 230,599.58	\$ 673,160.00	\$ 903,759.58
<u>District of Fort St. James</u>			
Cost Share, 75%	\$ 172,949.69	\$ 504,870.00	\$ 677,819.69
Paid to Date			\$ 155,625.36
Remaining Cost to Contribute to Project			\$ 522,194.33
<u>Nak'azdli Band</u>			
Cost Share, 25% to be funded by INAC	\$ 57,649.90	\$ 168,290.00	\$ 225,939.90
Paid to Date ?			\$ 74,974.22
Remaining Cost to Contribute to Project			\$ 150,965.68
INAC Funding to Date to Nak'azdli Band			\$ 218,000.00
Deduct DDC costs from this amount, as per mtg. May 10, 2006		(Debt Reduction)	\$ 104,904.00
Adjusted INAC Funding to Date			\$ 113,096.00
Remaining Funding Needed from INAC			\$ 112,843.90

218,462

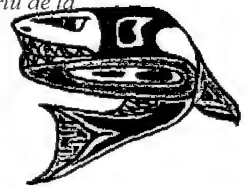
113,558

$$\begin{array}{r} 225,939.90 \\ - 113,096.00 \\ \hline 112,843.90 \end{array}$$

$$\begin{array}{r} 225,939 \\ - 113,558 \\ \hline 112,381 \end{array}$$



Carrier Sekani Tribal Council



REPLY TO:

☒ PRINCE GEORGE OFFICE

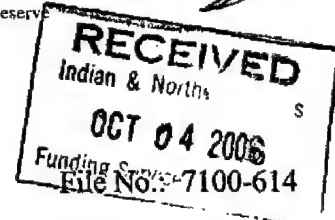
1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206
www.cstc.bc.ca

☐ HEAD OFFICE

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

September 26, 2006

FAXED



Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

F. Gelinas
File# 4380-614-5694
A_B_UNC DOC 8007 CI
ACL ES-SSU
FOLDER
cc: H. Beer, D. Fyfe.

Attention: Helen Beer, Capital Specialist

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period June 1 to September 30, 2006.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Reg Mueller, ASCT
Director, Technical Services Unit

:ao

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
[redacted] Nak'azdli Band

Andray Osterhout
No longer with CSTC

06 OCT 4 18:47

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date	Progress Report for the Period:	From	To
01/18/02		06/01/06	09/30/06
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. D&K has provided deliverables to close 1st phase of project and prepared final numbers to do project in phases. Band 25% is covered in design cost. A completion report will be submitted in Oct./06.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

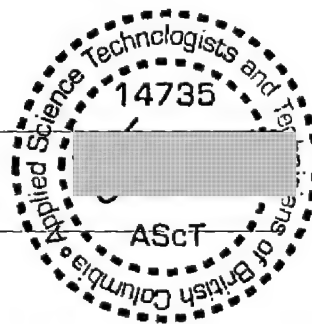
9/26/06

Received at DIAND by

Date

Oct 5/06

Nelen Beer

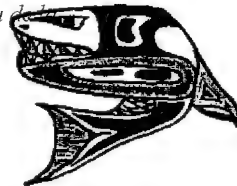




Carrier Sekani Tribal Council

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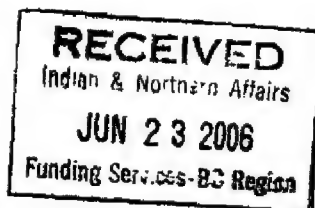
☒ **PRINCE GEORGE OFFICE**

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206
www.cstc.bc.ca

☐ **HEAD OFFICE**

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

June 19, 2006



File No.: 7100-614

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

F. Gelinas
4380-614-5694
UNC XDOC:530915 C1
ACI FS-SSU
FOLDER
cc: J. Dwyer

Attention: John Dwyer, Capital Specialist

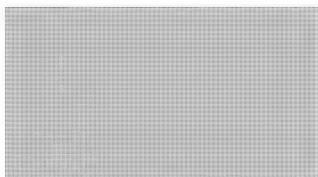
Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period March 1 to May 31, 2006.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL



Director, Technical Services Unit

:ao

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
Brenda Thomas, Nak'azdli Band

'06 JUN 22 AM 10:31

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		03/01/06	05/31/06
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. There has been a municipal election in November and the new Council will be addressing the issue. The first meeting was on 12/14/05 between the Band & DFSJ with a follow-up DFSJ budget meeting 1/15/06 where decisions will be made that will provide direction to proceed. D&K will supply deliverables to close 1st phase of project and are currently finalizing final numbers to do project in phases. Band 25% is covered in design cost.

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I certify that the information above is accurate and comprehensive

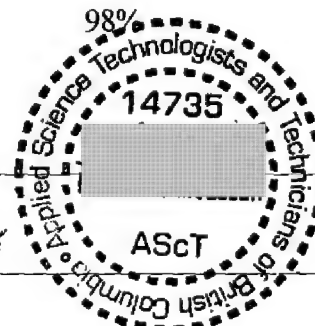
Project Manager authorized by First Nation's Council

Date

Received at DIAND by

Date

Helen Beer



s.19(1)

Communiqué en vertu de la
Loi sur l'accès à
l'information**REQUEST FOR CAPITAL OVERRIDE**Name of First Nation: **Nak'azdli Band**Band Number: **614**

Contact Name:

Brenda Thomas

Request for Override to:

- Infrastructure Progress Report
- **Infrastructure Completion Report**
- Housing Completion Report

Date of Request: **December 22, 2005**CPMS Project No: **5694****Wastewater Collection, Treatment & Disposal****What are the circumstances?**

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Design has been completed and is currently under review by Band and the District of Fort St. James prior to submitting to INAC for review.

What is the strategy for resolution?

The Band is currently waiting for confirmation from the District of Fort St. James to review the design. A meeting of all parties was held in January 2005 to confirm project direction. Another meeting is to be scheduled with the District to see if this project will proceed this year.

The district recently went through an election of a new Mayor and Council. Nak'azdli Band Council met with the District December 12, 2005 to discuss what design the District will be going with in the New Year. This meeting is scheduled for February 2, 2006.

What is the revised timeline for completion?

The design will be reviewed by both the Band and the District prior to submitting to INAC for review. The Design is expected to be submitted by March 31, 2006.

Entered

Signature, and Position Title

Print Name

*Recommended**OK**3/12/05*

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Loi sur l'accès à
l'information

s.19(1)

REQUEST FOR CAPITAL OVERRIDEName of First Nation: **Nak'azdli Band**Band Number: **614**

Contact Name:

Brenda Thomas

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- Infrastructure Progress Report
- **Infrastructure Completion Report**
- Housing Completion Report

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Signature, and Position Title

Print Name

23/12/05

s.19(1)

Failed 2002
DIR to Dec/05**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period:

From

10/01/05

To

12/01/05

Completion Date

unknown

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. There has been a municipal election in November and the new Council will be addressing the issue. The first meeting will be 12/14/05 between the Band & DFSJ with a follow-up DFSJ budget meeting 1/15/06 where decisions will be made that will provide direction to proceed. D&K will supply deliverables to close 1st phase of project by 1/06.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

\$187,725.15

Budgeted

\$218,462.00

Percentage of Work Completed

98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Dec 9/05

Date

ASCT

s.19(1)

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PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period:

From

To

7/01/05

9/30/05

Completion Date

unknown

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04).

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work
Completed

\$187,725.15

\$218,462.00

98%

I certify that the information above is accurate and comprehensive

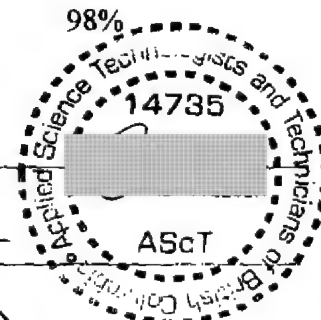
Project Manager authorized by First Nation's Council

Date

(Signature)
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DIAND by

(Signature)
Date

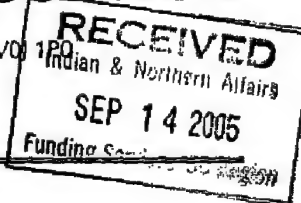


File# 41380-1214-5694
 AX-UNCXDOCH 40992361
 ACL 75-550



NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
 Telephone 996-7171
 Fax 996-8010



FACSIMILE TRANSMITTAL SHEET

TO: MANAGER, Special Services Unit FROM: Brenda Thomas
 COMPANY: Funding Services DATE: Sept 13/05
INBC
 FAX NUMBER: (604) 775-7149 TOTAL NO. OF PAGES INCLUDING COVER:
 PHONE NUMBER: SENDER'S REFERENCE NUMBER:

RE: Capital Suspension Report YOUR REFERENCE NUMBER:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☒ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Please confirm that CPMS Reports
 are recieved.

Thank You
 Brenda
 (250) 996-7171

HAVE A FABULOUS DAY

REQUEST FOR CAPITAL OVERRIDEName of First Nation: **Nak'azdli Band**Band Number: **614**

Contact Name:

Brenda Thomas

Request for Override to:

- Infrastructure Progress Report
- **Infrastructure Completion Report**
- Housing Completion Report

Date of Request: **September 7, 2005**CPMS Project No: **5694****Wastewater Collection, Treatment & Disposal****What are the circumstances?**

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Design has been completed and is currently under review by Band and the District of Fort St. James prior to submitting to INAC for review.


What is the strategy for resolution?

The Band is currently waiting for confirmation from the District of Fort St. James to review the design. A meeting of all parties was held in January 2005 to confirm project direction. Another meeting is to be scheduled with the District to see if this project will proceed this year.

What is the revised timeline for completion?

The design will be reviewed by both the Band and the District prior to submitting to INAC for review. The Design is expected to be submitted by December 31, 2005.


Signature, and Position Title


Brenda Thomas
Print Name

Aware of situation with Dist. of Ft. St. James as indicated on file. Recommended: John Dwyer
Sept 15/05

to Information Act

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l'information

Capital Project Management System**Capital Suspension Report****Report Valid From 7/1/2005 To 9/30/2005**

Recipient	Project Number	Project Name	Funding to Date	Fully Funded Stage	Last Date Funded	Report Required	
Infrastructure Overdue Reporting							
614	Nak'azdli	5892	Water System Improvements	\$103,602	Design	01-Feb-2002	Design Complete
614	Nak'azdli	5894	NWWS Wastewater Collection, Treatment & Disposal System	\$218,462	Design	18-Jan-2002	Design Complete
614	Nak'azdli	5918	Band Housing (MG) 2001/02 - 4 Plex	\$112,996	Acquisition	09-Feb-2004	Completion
614	Nak'azdli	7010	Nak'ai Bun School Repairs	\$249,800	Acquisition	02-Feb-2004	Aquisition / Report



John Dwyer

Suppose to Send me questions/Comments
Completion Report.

Notes:

Housing - Completion Reports are due 365 days after the last funded date. Overdue reporting affects all future housing funding.

Infrastructure - Progress reports are due every 90 days after the last date funded. Completion Reports are due for each stage 365 days after it was last funded. Overdue infrastructure funding.

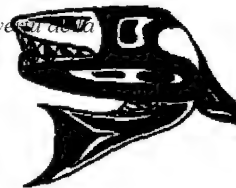
Agreement Reporting affects all future capital funding (Housing and Infrastructure).



Carrier Sekani Tribal Council

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REPLY TO:

☒ PRINCE GEORGE OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (604) 562-6279
Fax: (604) 562-8206

☐ HEAD OFFICE

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

July 20, 2005

File No.: 7100-614

FAXED

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

Attention: John Dwyer, Capital Specialist

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period April 1 to June 30, 2005.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL



Reg Mueller, ASCT
Director, Technical Services Unit

:ao

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
Brenda Thomas, Nak'azdli Band



J. DWYER
E 480-614-5674
395372
F.S.U.
cc: F. GEUNDS

'05 JUL 25 PM 12:53

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		4/01/05	6/30/05
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ is completing replacement of blowers in the pumphouse (by end of July) and provided confirmation of funding for the septage tank portion of project. DFSJ to select which option to use to proceed to the next phase.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Received AMJIAN by

Date

Date

14735

REGINALD MUELLER

ASCT

July 2005

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period:

From

To

4/01/05

6/30/05

Completion Date

unknown

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ is completing replacement of blowers in the pumphouse (by end of July) and provided confirmation of funding for the septage tank portion of project. DFSJ to select which option to use to proceed to the next phase.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work
Completed

\$187,725.15

\$218,462.00

I certify that the information above is accurate and comprehensive

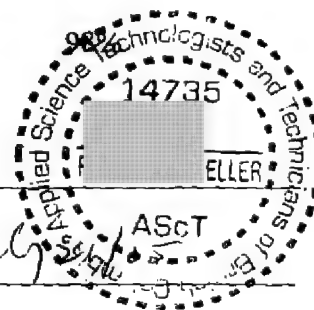
Pr

First Nation's Council

Date

Received by DIAND by

Date





Carrier Sekani Tribal Council



REPLY TO:

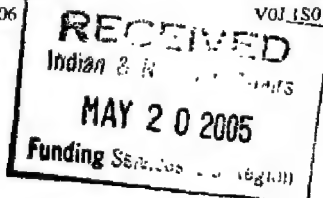
☒ PRINCE GEORGE OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206

☐ HEAD OFFICE

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

May 12, 2005



File No.: 614-01-02

F. GELINAS
FILE 4380 - 614 - 5694
A.B. UNGXDOO# 371884 C3
ACL ESSU
CC: A. McLean

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

FILE 5694

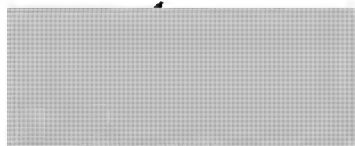
Attention: Frank Gelinas, Capital Specialist

Re: Nakazdli Band - Upgrading of the Existing Sewage Lagoons (CPMS #5694) - Meeting

Please be advised that a meeting has been scheduled at 10:00 a.m. on May 31st, 2005 at the Nak'azdli Band Office regarding the above. The purpose of this meeting is to update all parties as to the status of this project and to discuss future direction. Please plan to be in attendance.

Regards,

CARRIER SEKANI TRIBAL COUNCIL



Director, Technical Services Unit

Cc: Aileen Prince, Nakazdli Band
John Boyle, P.Eng., Dayton & Knight Ltd.
Brian Harrington, P.Eng., Dayton & Knight Ltd.
Nigel Black, District of Fort St James
Mayor Jim Togyi, District of Fort St James
Janine Foisy, M.Sc., P.Eng., Regional District of Bulkley-Nechako

'05 MAY 19 AM 10:04



Carrier Sekani Tribal Council

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to Information Act
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l'information



REPLY TO:

☒ **PRINCE GEORGE OFFICE**

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (604) 562-6279
Fax: (604) 562-8206

☐ **HEAD OFFICE**

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

March 29, 2005

File No.: 7100-614

FAXED

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3



Attention: Barb Huppe, Capital Specialist

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period January 1 to March 31, 2005.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL



Director, Technical Services Unit

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
Aileen Prince, Nak'azdli Band

B. HUPPE
File # E 4380-614-5694
A.B. UNOXB... 359632-03
ACL FSSU
cc: E. CERNAS
A. MORGAN

'05 APR 7 AM 9:52

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		1/1/05	3/31/05
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

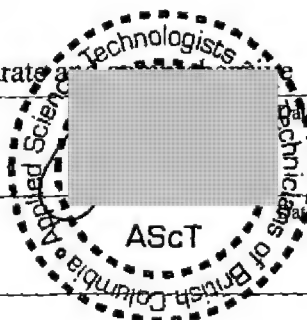
Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. DFSJ has completed replacement of blowers in the pumphouse and are waiting confirmation of Grant Funding from the Regional District for the septage tank portion of project.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	98%

I certify that the information above is accurate and

ed by First Nation's Council



MAR 30 2005



CONSTRUCTION COST ESTIMATE - REV 2

DISTRICT OF FORT ST. JAMES - UPGRADE OF THE EXISTING SEWAGE LAGOON

PROJECT NO. 403.1

TOTAL PROJECT COST - OPTION A

DATE ISSUED: MARCH 2, 2006

OPTION A: Sludge is dewatered on-site before being disposed on a local landfill site classified as "light industrial".

DESCRIPTION	UNIT	RATE	QTY	TOTAL
SUPPLY AND INSTALL BLOWERS (PERFORMED UNDER SEPARATE CONTRACTS)				
Total Supply and Install (see detailed estimate)	L.S.	\$ 143,293	1	\$143,293
Sub-Total:				\$143,293
SLUDGE REMOVAL				
Sludge Metals Analysis (Composite Sampling Protocol)	L.S.	\$ 2,000	1	\$2,000
Mobilization	L.S.	\$ 26,828	1	\$26,828
Draining Cell 1, 2, 3 and 5	L.S.	\$ 40,000	1	\$40,000
Sludge Treatment (includes polymer, personnel, hauling and disposal)	dry tonne	\$ 818	150	\$122,730
Moveover from Cells 1 and 2 to Cell 3	L.S.	\$ 5,780	1	\$5,780
Demobilization	L.S.	\$ 22,822	1	\$22,822
Sub-Total:				\$220,160
FINE BUBBLE AERATION SYSTEM				
Mobilization/Demobilization/Miscellaneous	L.S.	\$ 40,000	1	\$40,000
Supply & Install steel air header pipe	L.S.	\$ 60,000	1	\$60,000
Supply fine bubble diffusers, valves and in-tank piping for Cell 1 and 2	L.S.	\$ 36,000	1	\$36,000
Supply fine bubble diffusers, valves and in-tank piping for Cell 3	L.S.	\$ 42,000	1	\$42,000
Install Diffusers and Piping - Cell 1 and 2	L.S.	\$ 23,340	1	\$23,340
Install Diffusers and Piping - Cell 3 and 5	L.S.	\$ 23,340	1	\$23,340
Sub-Total:				\$224,680
SEPTAGE RECEIVING CHAMBER				
Construct Septage Receiving Chamber	L.S.	\$ 47,741	1	\$47,741
Construct Lock-Block Vehicle Access	L.S.	\$ 12,731	1	\$12,731
Sub-Total:				\$60,471
MISCELLANEOUS				
Mobilization/Demobilization	L.S.	\$ 20,000	1	\$20,000
Sub-Total:				\$20,000
Total Supply and Construction of Upgrade				\$668,604
Engineering and Contingencies	%	30%		\$200,581
Total (Before Taxes)				\$869,185
POSSIBLE ADDITIONAL WORK				
Supply and Install Septage Receiving Station Pump	L.S.	\$ 8,000	1	\$8,000
Supply electrical/control equipment for Pump	L.S.	\$ 9,000	1	\$9,000
				\$15,000
Engineering and Contingencies	%	30%		\$4,500
Total of Optional Work (Before Taxes)				\$19,500
Total Including Optional Work (Before Taxes)				\$888,685

J:\400\403 NAK\AZDL\001 Lagoon Upgrade\Deliverables and Production\Cost Estimates\Construction Cost Estimate 05 03 01.xls\OPTION A



CONSTRUCTION COST ESTIMATE - REV 2

DISTRICT OF FORT ST. JAMES - UPGRADE OF THE EXISTING SEWAGE LAGOON

PROJECT NO. 403.1

TOTAL PROJECT COST - OPTION B

DATE ISSUED: MARCH 2, 2005

OPTION B: Sludge, at approximately 6-8% solids, would be withdrawn from the ponds and taken to a local landfill area that is classified for light industrial disposal. Sludge would be mixed with sawdust and composted on-site, for approximately one year, before being used for proposed capping of the landfill site. A monitoring program, as required by the Bulkley-Nechako Regional District, would be established for sampling fecal coliforms and nutrients present in the compost material.

DESCRIPTION	UNIT	RATE	QTY	TOTAL
SUPPLY AND INSTALL BLOWERS (PERFORMED UNDER SEPARATE CONTRACTS)				
Total Supply and Install (see detailed estimate)	L.S.	\$ 143,293	1	\$143,293
Sub-Total:				\$143,293
SLUDGE REMOVAL				
Continued Sludge Analysis (Composite Sampling Protocol)	L.S.	\$ 15,000	1	\$15,000
Draining Cell 1, 2, 3 and 5	L.S.	\$ 40,000	1	\$40,000
Sludge Withdrawal (personnel, hauling and disposal)	L.S.	\$ 50,000	1	\$50,000
Sawdust Material	L.S.	\$ 5,000	1	\$5,000
Sub-Total:				\$110,000
FINE BUBBLE AERATION SYSTEM				
Mobilization/Demobilization/Miscellaneous	L.S.	\$ 40,000	1	\$40,000
Supply & Install steel air header pipe	L.S.	\$ 60,000	1	\$60,000
Supply fine bubble diffusers, valves and in-tank piping for Cell 1 and 2	L.S.	\$ 36,000	1	\$36,000
Supply fine bubble diffusers, valves and in-tank piping for Cell 3	L.S.	\$ 42,000	1	\$42,000
Install Diffusers and Piping - Cell 1 and 2	L.S.	\$ 23,340	1	\$23,340
Install Diffusers and Piping - Cell 3 and 5	L.S.	\$ 23,340	1	\$23,340
Sub-Total:				\$224,680
SEPTAGE RECEIVING CHAMBER				
Construct Septage Receiving Chamber	L.S.	\$ 47,741	1	\$47,741
Construct Lock-Block Vehicle Access	L.S.	\$ 12,731	1	\$12,731
Sub-Total:				\$60,471
MISCELLANEOUS				
Mobilization/Demobilization	L.S.	\$ 20,000	1	\$20,000
Sub-Total:				\$20,000
Total Supply and Construction of Upgrade				\$558,444
Engineering and Contingencies	%	30%		\$167,533
Grand Total (Before Taxes)				\$725,977
POSSIBLE ADDITIONAL WORK				
Supply and Install Septage Receiving Station Pump	L.S.	\$ 6,000	1	\$6,000
Supply electrical/control equipment for Pump	L.S.	\$ 9,000	1	\$9,000
				\$15,000
Engineering and Contingencies	%	30%		\$4,500
Total of Optional Work (Before Taxes)				\$19,500
Grand Total Including Optional Work (Before Taxes)				\$745,477

J:\400\403 NAK\AZDL\001 Lagoon Upgrade\Deliverables and Production\Cost Estimates\Construction Cost Estimate 05 03 01.xls\OPTION B

s:19(1)

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l'information

B. HUPPE
 File# E 4380-614-5694
 A_B_UNCDOC# 358147 C3
 ACL FSSU

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		1/1/05	3/31/05
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. A so still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. DFSJ has completed replacement of blowers in the pumphouse and are waiting confirmation of Grant Funding from the Regional District for the septage tank portion of project.

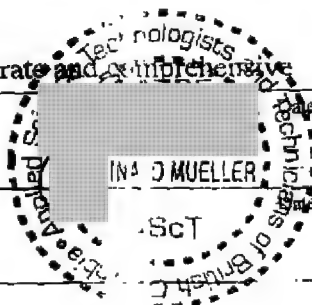
STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	98%

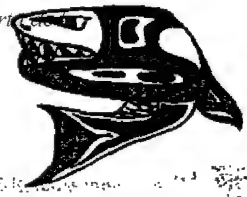
I certify that the information above is accurate and comprehensive.

Project Manager authorized by First Nation's Council

by



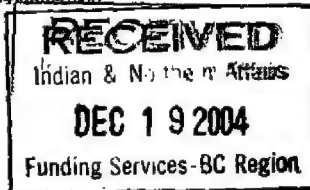
'05 MAR 31 AM 11:19

Carrier Sekani Tribal Council

REPLY TO:

☒ **PRINCE GEORGE OFFICE**☐ **HEAD OFFICE**1460 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (604) 562-6279
Fax: (604) 562-8206Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

December 13, 2004

File No.: 7100-614 B.Huppe
File# E-4380-614-5694 -
A_B_UNC/50033034/C3
ACL FSSU**FAXED**Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3**Attention: Barb Huppe, Capital Specialist****Re: CAPITAL PROJECT PROGRESS REPORTS**

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period September 15 to December 31, 2004.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCILAudrey Osterhout, Admin Assistant
Technical Services Unit

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
Aileen Prince, Nak'azdli Band

04DEC18AM1122

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		9/15/04	12/31/04
Completion Date	3/05		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties has been scheduled for Jan./05 to confirm project direction.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$185,990.40	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

for CSTC, Technical Services Unit

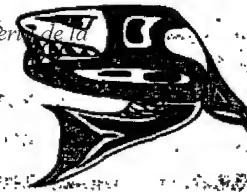
DEC 13 2004

Received at DIAND by

Date

Carrier Sekani Tribal Council

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Loi sur l'accès à
l'information



REPLY TO:

☒ PRINCE GEORGE OFFICE

1460 26th Avenue
Prince George, B.C. V2L 3N2
Phone: (604) 562-6279
Fax: (604) 562-8206

☐ HEAD OFFICE

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

September 21, 2004

FAXED

File No.: 7100-614

B. Huppe

File# E4380 614-5694

A_B_UNCXDOC# 315850 C4

ACL _____

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

Attention: Barb Huppe, Capital Specialist

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period June 1 to September 15, 2004.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Audrey Osterhout, Admin Assistant
Technical Services Unit

attachments

cc: Aileen Prince, Nak'azdli Band

2004 SEP 24 AM 11:58

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		6/01/04	9/15/04
Completion Date	12/04		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$185,990.40	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

for CSTC, Technical Services Unit

9/21/04.

Received at DIAND by

Date

PROPOSED AGENDA

UPGRADING OF NAK'AZDLI/FORT ST JAMES SEWAGE LAGOON SYSTEM

1. Introduction of attendees
2. Purpose of meeting
3. Design Review Status
4. Bulkley Nechako Regional District
5. Funding Status
6. Agreed direction to go from here.
7. Co-ordinator[s]

s.19(1)

Released under the Access
to Information ActCommuniqué en vertu de la
Loi sur l'accès à
l'information**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date

01/18/02

Progress Report for the Period:

From

To

6/01/04

9/15/04

Completion Date

12/04

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$185,990.40

\$218,462.00

98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

for CSTC, Technical Services Unit

Date

9/21/04

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		3/01/04	5/31/04
Completion Date	12/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$168,586.39	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

P. Eng.

Date

6/09/04

s.19(1)

Released under the Access
to Information ActCommuniqué en vertu de la
Loi sur l'accès à
l'information**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period:

From

To

3/01/04

5/31/04

Completion Date

12/03

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$168,586.39

\$218,462.00

98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

P. Eng

6/09/04

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to Information ActCommuniqué en vertu de la
Loi sur l'accès à
l'information

s.19(1)

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date	Progress Report for the Period:	From	To
01/18/02		3/01/04	5/31/04
Completion Date	12/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$168,586.39	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date



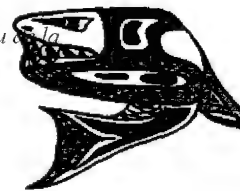
Date





Carrier Sekani Tribal Council

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Loi sur l'accès à
l'information


REPLY TO:
☒ **PRINCE GEORGE OFFICE**

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (604) 562-6279
Fax: (604) 562-8206

☐ **HEAD OFFICE**

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

March 2, 2004

FAXED

File No.: 7100-614

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

File# E4380-614-5694
A_B_UNCXDOC# 264980 C4
ACL _____

Attention: Barb Huppe, Capital Specialist

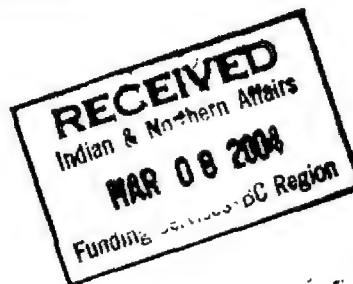
Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period December 1, 2003 to February 29, 2004.

Please call me at 250.562.8999 if you have any questions.

Respectfully yours,

CARRIER SEKANI TRIBAL COUNCIL



Joel I. Barkman, P.Eng.
Manager, Technical Services Unit

:ao

attachments

cc: Aileen Prince, Nak'azdli Band

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date	Progress Report for the Period:	From	To
01/18/02		12/01/03	2/29/04
Completion Date	12/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also waiting for final documents from D&K to prepare submission.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$168,586.39	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

Dec. 8/03

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period: From

To

9/01/03

11/30/03

Completion Date

12/03

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$168,586.39

\$218,462.00

98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

P. Eng

12/08/03

Date

Adrian Philip Joseph - Fwd: Re: Nakazdli FN, NWWS Project - Upgrade of Sewage Lagoons, CPMS#5694

From: Adrian Philip Joseph
To: Joel Barkman
Date: 12/30/2003 1:49 PM
Subject: Fwd: Re: Nakazdli FN, NWWS Project - Upgrade of Sewage Lagoons, CPMS#5694
CC: Barbra Huppe; Brian Harrington; Frank Gelin; Gerry Grunau; Jane Guo; Joel Barkman; Ted Molyneux

851118

Joel

Can you please advise us all of the status of this project. How is it intended to handle the issues that I have raised & that Jane Guo has raised? What is the intended schedule for this project?

Regards

Adrian Joseph
District Engineer
PWGSC for INAC
(Tel. 604-666-4761)

>>> Jane Guo December 30, 2003 12:22:06 PM >>>
Adrian,

Thank you for cc me the message. You've raised some valid questions and I agree with them all.

I was not previously involved in the project. According to INAC's CPMS record system, the project (5694) is for the improvement of the sewage collection, treatment and disposal systems. A MTSA is in place, and the cost for the project is shared between INAC and District of Ft. S. James. The project appears to be in predesign stage now and, as of December 8, 2003, is 98% complete.

Nakazdli's wastewater facility is rated Medium Risk in the facility's assessment report. The main reasons are:

1. lack of emergency response plan;
2. no O & M manual for lift station seen; and
3. operators need to be trained.

Outside scope of project. Operated by District, note 6
Probably Urban Systems is 1984.

CSTC will ensure District Operators, may be FN if any.
D&K will train if they do the construction supervision.

Without digging through the project file, some questions popped out of my mind are:

1. Has the consultant submitted the predesign report for review? In project Brief.
2. Is environmental assessment part of the predesign? Yes
3. Does the scope of the project include an update of the O & M Manual, a development of an emergency response plan and an operation and an maintenance plan? Yes for lagoon & Septage receiving
4. Who will be responsible for the O & M of the collection (on reserve), treatment and disposal of the effluent? Dist Ft. St. James as per MTSA.

As part of Canadian Environmental Assessment Act screening process, we need to circulate a copy of

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l'information*

From: Jane Guo
To: Adrian Philip Joseph; Brian Harrington
Date: 12/30/03 12:22pm
Subject: Fwd: Re: Nakazdli FN, NWWWS Project - Upgrade of Sewage Lagoons, CPMS#5694

Adrain,

Thank you for cc me the message. You've raised some valid questions and I agree with them all.

I was not previously involved in the project. According to INAC's CPMS record system, the project (5694) is for the improvement of the sewage collection, treatment and disposal systems. A MTSA is in place, and the cost for the project is shared between INAC and District of Ft. S. James. The project appears to be in predesign stage now and, as of December 8, 2003, is 98% complete.

Nakazdli's wastewater facility is rated Medium Risk in the facility's assessment report. The main reasons are:

1. lack of emergency response plan;
2. no O & M manual for lift station seen; and
3. operators need to be trained.

Without digging through the project file, some questions popped out of my mind are:

1. Has the consultant submitted the predesign report for review?
2. Is environmental assessment part of the predesign?
3. Does the scope of the project include an update of the O & M Manual, a development of an emergency response plan and an operation and an maintenance plan?
4. Who will be responsible for the O & M of the collection (on reserve), treatment and disposal of the effluent?

As part of Canadian Environmental Assessment Act screening process, we need to circulate a copy of the predesign report to regulatory agencies, such as Environment Canada, DFO, Health Canada, etc. Their comments should be taken into consideration.

I suggest that consultant address your questions as well as the above listed questions and submit a finalized predesign report for review. Our formal comments should follow after reviewing the report and going through the CEAA process.

Regards,

Jane Guo, M.A.Sc., P.Eng.
Wastewater Engineer
PWGSC for INAC
Public Works and Government Services Canada
Tel: 604-666-5164
Fax: 604-666-5159
E-mail: guoj@inac.gc.ca

>>> Adrian Philip Joseph 12/15/03 11:49am >>>
Brian

CPMS 5694 shows:

- MTS in place, cost share of Ft. St. James to improve coll. treat and disp. NWWS
Dec 8/03, progress @ 98% complete.

From: Adrian Philip Joseph

To: Brian Harrington

Date: 12/15/03 11:50am

Subject: Nakazdli FN, NWWS Project - Upgrade of Sewage Lagoons, CPMS#5694

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Medium Risk

due to: - training
- O & M Manual
- ERP

Brian

This message is in response to your phone call on Friday 12 December, 2003. You indicated that you are preparing a Construction Submission on behalf of Dayton & Knight for Joel Barkman of CSTC. Essentially the project is to upgrade the five lagoons with new storage tanks etc, to provide better treatment of sewage for the band & the Town of Fort St. James.

You asked if I had any particular environmental concerns & my response is that I do. I visited the site a few years back & recall that the river runs immediately adjacent to the lagoons & is only separated from the river by dykes or the walls of the lagoon. My concerns are:

1. Does the lagoon discharge any material into the river through the dykes?
2. What are the dykes composed of? Are there any permeable sand seams directly connecting to the river? Are there any signs of seepage on the outer face of the dyke?
3. What does the lining of the lagoons consist of? Is the lagoon lining adequate?
4. Is the outer or riverside face of the dyke protected adequately from river erosion when a design flood occurs? What is the design flood for this river?
5. What is the elevation of the water at the dykes when the design flood occurs & how does this compare with the elevation of the crest of the dykes? What is the freeboard along the dyke where the lagoons occur?

These environmental concerns should be addressed by a competent geotechnical engineer & may require hydrological input. I understand that consideration has not been given to these concerns as yet.

Adrian Joseph
District Engineer
PWGSC for INAC

CC: Barbra Huppe; Frank Gelinis; Gerry Grunau; Jane Guo; Joel Barkman

CPMS 5694
Total project cost: \$672,582. ← D. of Ft. St. James \$454,066, incl. DCC \$83,799
INAC: \$218,462. Contingency: 0.

Q: ① Is the O & M manual to be updated as part of the project?

② ERP in place?

③



Carrier Sekani Tribal Council

REPLY TO:

☒ PRINCE GEORGE OFFICE

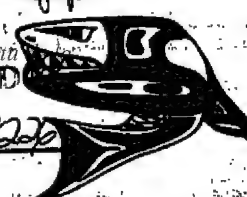
1460 - 6th Avenue
 Prince George, B.C. V2L 3N2
 Phone: (604) 562-6279
 Fax: (604) 562-8206

☐ HEAD OFFICE

Stellaquo Band Indian Reserve
 Box 760
 Fraser Lake, B.C.
 V0J 1S0

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E4380-614-5694



Document # 248227

December 8, 2003

File No.: 7100-614

FAXED

Indian and Northern Affairs Canada
 Suite 600 - 1138 Melville Street
 Vancouver, BC
 V6E 4S3



Attention: Barb Huppe, Capital Specialist

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period September 1 to November 30, 2003.

Please call me at 250.562.8999 if you have any questions.

Respectfully yours,

CARRIER SEKANI TRIBAL COUNCIL

Joel I. Barkman, P.Eng.
 Manager, Technical Services Unit

:ao

attachments

cc: Aileen Prince, Nak'azdli Band

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		9/01/03	11/30/03
Completion Date	12/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review.

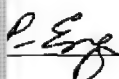
STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$168,586.39	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date



12/03/03

Date

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name **Nak'azdli Band**

Project Number **5694**

Project Title **Wastewater Collection, Treatment & Disposal**

Sep 12/03

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		6/01/03	8/31/03
Completion Date	12/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$156,073.52	\$218,462.00	85%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

P. Erp

Date

9/11/2003

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Sept 12/03

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period:

From

6/01/03

To

8/31/03

Completion Date

12/03

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$156,073.52

\$218,462.00

85%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

P. Eng

9/11/2003

Date

s.19(1)

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l'information**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date

01/18/02

Progress Report for the Period:

From

3/01/03

To

05/31/03

Completion Date

10/03

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$136,457.68

\$218,462.00

62%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

s.19(1)

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Loi sur l'accès à
l'information**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date

01/18/02

Progress Report for the Period: From

To

3/01/03

05/31/03

Completion Date

10/03

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$136,457.68

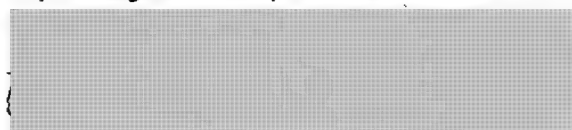
\$218,462.00

62%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date



Date

06/22/2003



Carrier Sekani Tribal Council

REPLY TO:

☒ PRINCE GEORGE OFFICE

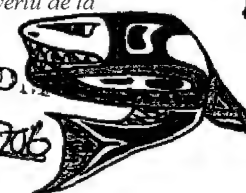
1460 - 6th Avenue
 Prince George, B.C. V2L 3N2
 Phone: (250) 562-6279
 Fax: (250) 562-8206

☐ HEAD OFFICE

Stellaguo Band Indian Reserve
 Box 760
 Fraser Lake, B.C.
 V0J 1S0

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Original in CID
 Document # 218706



KT

June 26, 2003

File No.: 7100-614

FAXED

Indian and Northern Affairs Canada
 Suite 600 - 1138 Melville Street
 Vancouver, BC
 V6E 4S3

Attention: Frank Gelinas, Capital Specialist

Re: CAPITAL PROJECT PROGRESS REPORTS

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #5692 and #5694 and covers the period March 1, 2003 to May 31, 2003.

Please call me at (250) 562-8999 if you have any questions.

Respectfully yours,

CARRIER SEKANI TRIBAL COUNCIL

Joel I. Barkman, P.Eng.
 Manager, Technical Services Unit

:jr

attachment

cc: Aileen Prince, Nak'azdli Band



**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		3/01/03	05/31/03
Completion Date	10/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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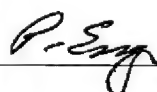

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$136,457.68	\$218,462.00	62%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date



06/22/2003

Date

s.19(1)

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name	Nak'azdli Band		
Project Number	5694		
Project Title	Wastewater Collection, Treatment & Disposal		
SCHEDULE FOR PROGRESS REPORTS			
Project Start Date	Progress Report for the Period:	From	To
01/18/02		12/01/03	2/29/04
Completion Date	12/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$168,586.39	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

P. Singh

Date

03/02/2004

s.19(1)

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Loi sur l'accès à
l'information**APPENDIX B – REQUEST FOR CAPITAL OVERRIDE**Name of First Nation: **Nak'azdli Band**Band Number: **614**Contact Name: **Aileen Prince**Request to Override to: **October 30, 2003**☐ Infrastructure Progress Report☒ **Infrastructure Completion Report for Nak'azdli – District Fort St. James Sewage Treatment Improvements**☐ Housing Completion ReportDate of Request: **6-24-2003**CPMS Project No: **5694****What are the Circumstances?**

During 2002 the Consultant collected and analysed sewage samples for design with the assistance of the District of Fort St. James. On March 26, 2003 the TSU was provided with a letter and draft design of the septicage holding tank, sample analysis and sewage flows.

The TSU investigated a reported wide variance in flows due to possible high infiltration at Nak'azdli. It was found to be sump pumps connected to the sanitary sewer throughout the District and the Reserve.

The Consultant is proceeding with the design.

What is the strategy for resolution?

The TSU requested a revised schedule from the consultant for completion of design. The preliminary design has been received and is currently under review by the Technical Services Unit (TSU) and the District of Fort St. James (DFSJ). The Consultant proposes to complete the design by the end of August 2003. Both the TSU and the DFSJ will then review the detailed design.

What is the revised timeline for completion?

Tentatively: Design completion by August 31, 2003, submission of pre-reviewed design by both TSU & District by October 30 to INAC. This project will be funded by the DFSJ with construction supervision by INAC funding and Project Management by the TSU.

Manager Technical Services Unit
Tribal Council**Joel I. Barkman, P. Eng**
Print Name

Fax to: Manager, Special Services Unit, Funding Services @ 604-666-2046

Yes Barb H. June 25/03

BC

25/6/03

Indian & Northern Affairs Funding Services, BC Region
Fax Received
Date: <u>June 28/03</u>
Initials: <u>JP</u>

s.19(1)

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Loi sur l'accès à
l'information**APPENDIX B - REQUEST FOR CAPITAL OVERRIDE**

Name of First Nation: Nak'azdli Band

Band Number: 614

Contact Name: Aileen Prince

Request to Override to: October 30, 2003

☐ Infrastructure Progress Report☒ Infrastructure Completion Report for Nak'azdli - District Fort St. James Sewage Treatment Improvements☐ Housing Completion Report

Date of Request: 4-23-2003

CPMS Project No: 5694

What are the Circumstances?

During 2002 the Consultant collected and analysed sewage samples for design with the assistance of the District of Fort St. James. On March 26, 2003 the TSU was provided with a letter and draft design of the septage holding tank, sample analysis and sewage flows.

As a result of the wide variance in flows the TSU will be investigating areas of possible high infiltration at Nak'azdli. There is one area, which is subject to seasonal flooding.

The Consultant is proceeding with the design.

What is the strategy for resolution?

The TSU has requested a revised schedule from the consultant for completion of design; this will be forwarded as soon as received.

What is the revised timeline for completion?

Tentatively: Design completion by August 30, 2003, submission of pre-reviewed design by both TSU & District by October 30 to INAC with submission for construction funding.

June 30/03
Manager Technical Services Unit
Carrier Sekani Tribal Council

Joel I. Barkman, P. Eng
Print Name

Fax to: Manager, Special Services Unit, Funding Services @ 604-666-2046

s.19(1)

to Information Act

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l'information

APPENDIX B - REQUEST FOR CAPITAL OVERRIDE

Name of First Nation: Nak'azdli Band

Band Number: 614

Contact Name: Aileen Prince

Request to Override to: October 30, 2003

☐ Infrastructure Progress Report☒ Infrastructure Completion Report for Nak'azdli - District Fort St. James Sewage Treatment Improvements☐ Housing Completion Report

Date of Request: 4-23-2003

CPMS Project No: 5694

Water Water Collector

What are the Circumstances?

During 2002 the Consultant collected and analysed sewage samples for design with the assistance of the District of Fort St. James. On March 26, 2003 the TSU was provided with a letter and draft design of the septicage holding tank, sample analysis and sewage flows.

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June 30/03
Manager Technical Services Unit
Carrier Sekani Tribal Council

Joel I. Barkman, P. Eng
Print Name

Fax to: Manager, Special Services Unit, Funding Services @ 604-666-2046

OK

April 24/03

s.19(1)

Communiqué en vertu de la
Loi sur l'accès à
l'information**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date

01/18/02

Progress Report for the Period:

From

To

12/01/02

02/28/03

Completion Date

10/03

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design will now begin. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

Budgeted

Percentage of Work Completed

\$118,157.11

\$218,462.00

55%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

Record Drawings Completed: N/A
Operation and Maintenance Manual Completed N/A
Completion Certificate: Attached

<u>COST BREAKDOWN</u>	<u>ORIGINAL ESTIMATE</u>	<u>FINAL COST</u>
Planning and Design		
Construction/Acquisition	\$ 76,500.00	\$ 76,500.00
Construction Inspections		
Project Management		
Band Administration		
Other		
Total	\$ 76,500.00	\$ 76,500.00

* See attached financial statement.

PROJECT SYNOPSIS: (use additional page if necessary)

With the District of Fort St. James paying 75% of cost and Nak'azdli Band paying 25% of the cost a new fire truck was purchased for the District of Fort St. James.
The total contribution by Nak'azdli was \$ 85,000.00

Statement by Qualified Professional Project Manager / Architect / Engineer

I hereby certify that all the work has been completed according to applicable engineering practice and specifications, that the specified codes and standards have been met, that all required testing has been carried out in accordance with the project specifications, applicable codes and standards and generally accepted procedures and that mitigating measures as identified in the environmental screening report and related environmental assessment documentation have been implemented as necessary and deemed effective.

Signature

Professional Designation

Date

s.19(1)

Released under the Access

to Information Act

Communiqué en vertu de la

Loi sur l'accès à

l'information

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		12/01/02	02/28/03
Completion Date	10/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design will now begin. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$118,157.11	\$218,462.00	55%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azuli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		12/01/02	02/28/03
Completion Date	10/03		

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STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$118,157.11	\$218,462.00	55%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

P. Eng

3/10/2003

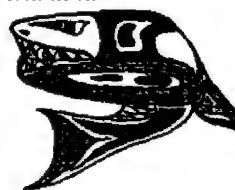
Date



Carrier Sekani Tribal Council

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to Information Act

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Loi sur l'accès à
l'information



REPLY TO:

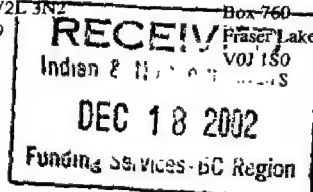
☒ PRINCE GEORGE OFFICE

☐ HEAD OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206

Stellaquo Band Indian Reserve

Box 760
Fraser Lake B.C.



December 11, 2002

5694

File No.: 7100-614

EGELIN 43
E4380-614-5694

FJ

FAXED

Dec 17/02

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

'02 DEC 18 AM 10:42

Attention: Frank Gelinas, Capital Specialist

Original In CIDM

Re: CAPITAL PROJECT PROGRESS REPORTS

Document # 190057

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692, #5694 and #5749 and covers the period September 1 to November 30, 2002.

Please call me at (250) 562-8999 if you have any questions.

Respectfully yours,

CARRIER SEKANI TRIBAL COUNCIL

✓ Joel I. Barkman, P.Eng.
Manager, Technical Services Unit

:ao

attachment

cc: Aileen Prince, Nak'azdli Band

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name **Nak'azdli Band**

Project Number **5694**

Project Title **Wastewater Collection, Treatment & Disposal**

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		09/01/02	11/30/02
Completion Date	10/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling is underway and to be concluded in December. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$112,561.61	\$218,462.00	55%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Received at DIAND by

Date

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		02/01/02	06/30/02
Completion Date	10/02		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project.


STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$107,521.07	\$218,462.00	49%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date



P. Egan

July 15, 2002

Date

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name Nak'azdli Band *614*
Project Number 5694
Project Title Wastewater Collection, Treatment & Disposal *Sept 17/02*

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		07/01/02	08/30/02
Completion Date	10/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling is underway and to be concluded in the fall. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$109,092.26	\$218,462.00	49%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		07/01/02	08/30/02
Completion Date	10/03		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling is underway and to be concluded in the fall. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$109,092.26	\$218,462.00	49%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Date

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name Nak'azdli Band
Project Number 5694
Project Title Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		09/01/02	11/30/02
Completion Date	10/03		

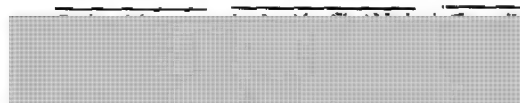
WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling is underway and to be concluded in December. Design is estimated to be complete 10/03.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$112,561.61	\$218,462.00	55%

I certify that the information above is accurate and comprehensive

 P. Ery 12/11/02
Received at DIAND by _____ Date _____

**PROGRESS REPORT
ON CAPITAL PROJECTS**107N
04/5/02

First Nation Name **Nak'azdli Band**

Project Number **5694**

Project Title **Wastewater Collection, Treatment & Disposal**

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		01/01/02	03/31/02
Completion Date	10/02		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project.

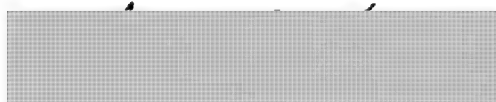
STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$0	\$218,462.00	0%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date



P. Eng.

3/26/02

Date

s.19(1)

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal**SCHEDULE FOR PROGRESS REPORTS**

Project Start Date

01/18/02

Progress Report for the Period: From

01/01/02

To

03/31/02

Completion Date

10/02

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date

\$0

Budgeted

\$218,462.00


Percentage of Work Completed

0%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date


*P. Eng.**3/26/02*
Date

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT British Columbia Region

FIRST NATION Nak'azdli

BAND NUMBER: 614

PROJECT NAME: Wastewater Collection, Treatment &
Disposal System

PROJECT LOG NUMBER: 5694

SERVICE CODE: 2484

TOTAL PROJECT COST: \$672,528

FUNDING LIMIT: \$218,462

FUNDED TO DATE: \$0

CONTINGENCY: \$0

FUNDING REQUIRED: \$218,462

SPECIAL NOTES: Prov Grant & Dist Ft St James share \$454,066. Includes DCC
\$83,799.

LEVEL:

Feasibility:

☐

Design:

☒

Acquisition / Construction:

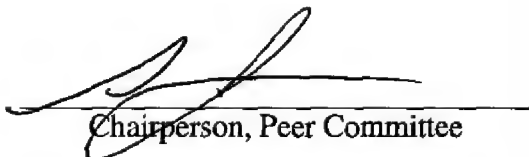
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Priority Rating:

29

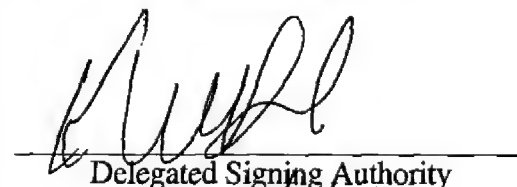
Note: A progress report must be provided to DIAND each quarter for projects that are not complete within 90 days of funding

CAPITAL PROJECT SUBMISSION RECOMMENDED


Chairperson, Peer Committee

Date: Oct 16/01

CAPITAL PROJECT SUBMISSION ELIGIBLE


Delegated Signing Authority

Date: 16/10/01

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
British Columbia Region

FIRST NATION - Nak'azdli

BAND NUMBER: 614

PROJECT NAME: Wastewater Collection, Treatment &
Disposal System

PROJECT LOG NUMBER: 5694

SERVICE CODE: 2484

TOTAL PROJECT COST: \$672,528

FUNDING LIMIT: \$218,462

FUNDED TO DATE: \$0

CONTINGENCY: \$0

FUNDING REQUIRED: \$218,462

SPECIAL NOTES: Prov Grant & Dist Ft St James share \$454,066. Includes DCC
\$83,799.

LEVEL:

Feasibility:

☐

Design:

☒

Acquisition / Construction:

☐

Priority Rating:

29


Note: A progress report must be provided to DIAND each quarter for projects that are not complete within 90 days of funding

CAPITAL PROJECT SUBMISSION RECOMMENDED


Chairperson, Peer Committee

Date: Oct 16/01

CAPITAL PROJECT SUBMISSION ELIGIBLE


Delegated Signing Authority

Date: 16/10/01



Indian and Northern
Affairs Canada
www.inac.gc.ca

Affaires indiennes
et du Nord Canada
www.ainc.gc.ca

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l'information

October 16, 2001

Your file - Votre référence

Our file - Notre référence

4380-614-5694

Chief and Council
Nak'azdli Band
P.O. Box 1329
FORT ST. JAMES, BC V0J 1P0

Dear Chief and Council:

RE: Wastewater Collection Treatment & Disposals Project # 5694

For your information, the subject project has completed the review process and was recommended as eligible for funding. Included is a signed copy of the Capital Project Eligible Form for your records noting the Funding Limit that this project is eligible for. This does not mean the project has been funded. Funding is subject to Nak'azdli Band Council meeting all of its reporting requirements, priority ranking of projects and the availability of funds in the regional capital budget.

If you have any questions or concerns, please feel free to contact me at the number listed below.

Yours truly,


Frank Gelinas
Capital Specialist
Special Services Unit
Phone: (604) 666-9927

cc Brian Rundle, Funding Service Officer

enclosure

Canada

Printed on recycled paper - Imprimé sur papier recyclé

A0430854_97-000596



Memorandum

To: Frank Gelinas, CS INAC

October 9, 2001

From: M Davies, Municipal Engineer
RPS for INAC, PWGSC

#847534
VAN E 4380-614-5694

Subject: Nakazdli - Wastewater Collection, Treatment and Disposal Improvements

I have reviewed the documentation for the proposed funding of the Nakazdli Band contribution towards the costs of the above facilities.

The Village of Fort St James and the Nakazdli Band both use the wastewater treatment and disposal system which is located on land leased from the Band. The Band contribution has been estimated and agreed at 25%, based on population and use analysis.

The facilities needed to be replaced by a new system to enable the effluent to remain at an acceptable quality and to meet the requirements of the agencies having jurisdiction.

The funding sought has two main components:

1. A contribution towards the debt repayment for the existing facility. ✓
2. A contribution towards the cost of treatment system improvements.

currently proposed

It is reasonable for INAC to provide the funding requested and within INAC's general policies to support joint Municipal/First Nations infrastructure facility agreements.

Michael J. Davies, P.Eng.,
Municipal Engineer,
RPS for INAC

REAL PROPERTY SERVICES FOR INAC - PWC

Capital Projects Review Document *Entered June 8/01*

Capital Project Management System #5694

A. PROJECT DATA:

First Nation: Nak'azdli Recipient #: 614
Project Name: Wastewater Collection, Treatment & Disposal System Reserve: Neumie RB1
FSO: _____ Total Project Cost: \$ 672,528
CPS: Gelinas Frank FTA (Yes / No): _____

B. SUBMISSION:

Feasibility: ☐ Pre-Design Design: ☒ Acquisition / Construction: ☐ Post Completion: ☐
Funding Limit: _____ \$ 218,462 Contingency: _____ \$0

Project Proposal: Yes ☒ No ☐
Environmental Assessment: Outline Yes ☒ No _____ N/A _____
Land Encumbrance: Yes ☒ No _____ N/A _____

C. REVIEW SUMMARY:

	Meets	Does Not Meet	N/A
Level of Service Standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable Design Standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost Effectiveness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implementation Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

exclusion list because project is improvement of existing facility

The above-noted project proposal has been reviewed in accordance with departmental standards and its compliance to those standards is indicated above. **Where the proposal does not meet established standards, an explanation is provided in an attached memorandum dated: 9 Oct 2001**

PROPOSED PROJECT PRIORITIZATION: 29

Richard [Signature]
Real Property Services for INAC

9 October 2001
Date

D. REAL PROPERTY SERVICES REVIEW

(a) Water Resources Engineer: Signature: _____ Date: _____

Comments: _____

(b) Environmental Engineer: Signature: _____ Date: _____

Comments: _____

(c) Elec./Mech Engineer: Signature: _____ Date: _____

Comments: _____

(d) Transportation Engineer: Signature: _____ Date: _____

Comments: _____

(e) District Engineer: Signature: _____ Date: _____

Comments: _____

E. SPECIALIST SERVICES:

Comments: _____

Manager, Specialist Services

Date

E4300-1

June 07, 2001

Chief and Council
Nak'azdli

Dear Chief and Council:

**Re: Capital Project Number 5694
Wastewater Collection, Treatment & Disposal System**

I am writing to advise that the above noted capital project proposal has been entered into B.C. Region's Capital Project Management System (CPMS) and is currently under review.

You will be further advised of the status of this submission when the review has been completed. If the proposal as submitted is complete, a determination of eligibility for funding will be made once the review is complete.

If it is necessary to correspond with us regarding this project, please reference the project number noted above. If you have any questions please contact your Capital Specialist.

Yours truly,

Gelinas Frank
Capital Specialist
Funding Services Directorate
Suite 600, 1138 Melville Street
Vancouver, BC V6E 4S3

cc. Funding Services Officer

F. Gelinas
E-4780-614-5694

S.N.

Nak'azdli Band

**Wastewater Collection, Treatment
& Disposal System Improvements**

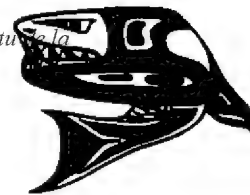
Project Submission
May 2001

Prepared by: CSTC, Technical Services Unit
Tel: 250-562-8999 Fax 250-562-0900



Carrier Sekani Tribal Council

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information



REPLY TO:

☒ PRINCE GEORGE OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206

☐ HEAD OFFICE

Stellaquo Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

May 22, 2001

File No.: 614-01-02

Indian and Northern Affairs Canada
Suite 600, 1138 Melville Street
Vancouver, BC
V6E 4S3

Attn: Frank Gelinas, Capital Specialist

RE: PROJECT SUBMISSION FOR NAK'AZDLI BAND

Please find enclosed a project submission for the **Wastewater Collection, Treatment & Disposal System Improvements Project** for the Nak'azdli Band. The attachments include the project brief, technical certification, environmental screening record, Band Council Resolution, MTSA for sewer services, encumbrance clearance, correspondence from the District of Fort St. James and the District of Fort St. James Sewage Treatment Lagoon Assessment report.

Please call if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Joel I. Barkman, P.Eng.
Manager, Technical Services Unit

:ao

attachments

cc: Aileen Prince, Nak'azdli Band
Dan Zabinsky, District of Fort St. James

Nak'azdli Band
WASTEWATER COLLECTION, TREATMENT & DISPOSAL SYSTEM IMPROVEMENTS
NECOSLIE I.R. No.1
Project Brief

I. PROJECT DESCRIPTION AND SCOPE OF WORK

The Nak'azdli Band's main community is located adjacent to and in the area of the District of Fort St. James approximately 100 miles from Prince George. The community is comprised of approximately 167 homes, a school, Band office, fire hall, community hall and other facilities which are located at I.R. #1 & 1A. The resident population on I.R. #1 is approximately 669. The current sanitary sewage collection, treatment and disposal of the District of Fort St. James (the District) supplies both the residents of the District and Necoslief I.R. #1. Sanitary sewage collection, treatment and disposal is supplied to the Band by the District under an agreement for the lagoon area lease. The existing lagoons, lift station and force main are operated and maintained by the District as is the gravity trunk main on Fort Street and on Lake Front Road. The Band is responsible for installing, extending and maintaining all other collection mains and all services within the reserve.

In the development of a Sewer Service MTSA between the District and the Nak'azdli Band it was decided to address the payment of debt servicing for past improvements as a separate one time capital contribution. Nak'azdli Band's share has been established on the basis of population served which is 25% under the Water Service Agreement. The details of this analysis are fully presented in the Water Feasibility Study by L&M Engineering in 1997 (CPMS # 2283) with review by NovaTec Consultants Inc.(for INAC).

The District incurred a \$1.0 million debt in 1984 under By-Law No. 404 (see attached 10/23/00 & 11/3/00 letters from Dan Zabinsky, Administrator and a copy of the by-law - Appendix C) for improvements. Prior to 1984 the municipality and the Band were served by a one-cell lagoon system with no treatment, no aeration and an overflow discharge into the Necoslief River. The size of the lagoon system was not adequate for the growing population and was not environmentally sound. Associated Engineering was hired by the municipality to design, tender and construct an entirely new system on the same property consisting of five cells, aeration treatment, with chlorination and dechlorination. The lagoon size was expanded to 25 acres and the discharge was now treated effluent into the river.

The \$1.0 million debt was financed through the Municipal Finance Authority over 25 years at a rate of 13.25% for the first 15 years resulting in annual payments of \$153,452. The Provincial government gave a yearly grant in the amount of \$99,334 for a net payable of \$54,118 yearly on the debt repayment. After 1999 the interest was renegotiated at 6.5% for a total yearly payment of \$85,952. The Provincial grant was then reduced to \$48,708 for a net annual debt repayment of \$37,244. The debt repayment is scheduled to end in 2009.

In 1999 the District engaged Dayton & Knight Engineering to prepare a sewage treatment lagoon assessment for \$8,421.11. In 2000 the District engaged the services of L&M Engineering to design, tender and construct an expansion to the chlorine contact chamber which would effectively double the size. The project cost a total of \$136,000 with a provincial grant of \$60,000 resulting in a net payable by the District of \$76,000. The improvements will allow a greater output from the system during peak periods and eliminate backups.

The District is currently working with the Regional District on a possible construction grant application for a septage receiving station, and alternate disposal systems. This would only apply for the District's portion of the project. The MTSA for collection, treatment and disposal of sewage from the Nak'azdli Band by the District took effect on August 1, 2000, and will be in effect until July 31, 2009 to coincide with the end of the current debt servicing.

Debt Reduction

The one time debt reduction fee has been based on the renegotiated annual net fee of \$48,708 at the population proportion of 25% or \$9,311 per year for the remaining 9 years. This accounts for \$83,799 of the one time debt reduction payment to the District. Recent improvements of \$76,000 and the sewage lagoon assessment of \$8,421.11 which totals \$84,421.11 at the population proportion of 25% would be \$21,105.28 in additional costs.

The total for the Band's portion of the debt reduction is **\$104,904.28**. The Band and the District have agreed to forgive all past debts up to July 31, 2000 and the new sewer service agreement would be for a nine year period.

The Band Council agreed to these conditions in the Council meeting of December 19, 2000 (Motion - Appendix D) and the District Council has been briefed and has agreed to this proposal as per Dan Zabinsky's December 14, 2000 letter (Appendix E) to Carrier Sekani Technical Services. A copy of the final ratified contract agreement is attached (Appendix F).

Part of this submission is to request funds for a one time capital contribution for the Band's portion of the past wastewater collection, treatment and disposal improvements completed by the District of Fort St. James.

Sewage Treatment Pre-Design/Design

The results of the 1999 engineering feasibility study by Dayton & Knight Engineering (Appendix G) recommended the following course of action:

- a. Item #17 of the Executive Summary called for an upgrade of the aeration system at an estimated cost of \$366,000.00. The feasibility design was based upon assumed loading criteria. The Consultant has proposed a sampling program and laboratory analysis to confirm loading criteria. Estimated costs are:

Sampling and laboratory analyses	\$15,000.00
Engineering pre-design study	<u>10,000.00</u>
	\$25,000.00

- b. Alternative 4 - Add fine bubble aeration in cells #1 and #2 and then convert cells #3 and #5 to fine bubble aeration. The existing aerobic cells #1 and #2 provide only a small degree of treatment compared to the equal size of aerated lagoons. They also produce more odours compared to aerated cells. Odours from the sewage treatment system and the cause of several complaints from Nak'azdli Band members living nearby. The details of the feasibility study for this option are described in detail on pages 5-8 through 5-13 of the enclosed report.

Stage 1 work is estimated at	\$237,000.00
Stage 2 work is estimated at	<u>129,000.00</u>
Total estimated cost	\$366,000.00

In addition, Dayton & Knight has recommended the construction of a concrete septage holding tank of approximately 14m capacity. The tank would be covered to reduce odour release and provided with a hatch for septage discharge and man-entry. The tank should be provided with a small discharge pump operated on a timed cycle, discharging into cell #1. A gravity overflow pipe would permit gravity flow into the lagoon should the pump fail or be removed for servicing. Complete details are in section 5-3 Septage Receiving Station of Dayton & Knight's report. Estimated cost of septage facility is \$50,000.00

Personal communication with John W.L. Boyle, P.Eng., Dayton & Knight Ltd. indicates the design costs for these three segments to be 15 to 20% of construction cost and are 1999 figures.

Alternative 4 - Design costs @ 20% of \$366,000.00 =	\$73,200.00
Septage facility Design costs @ 20% of \$50,000.00 =	\$10,000.00

III. **PROJECT TEAM**

The project team is comprised of the following individuals and their responsibilities are detailed below:

- | | |
|--------------------------|---|
| Band Project Coordinator | - Aileen Prince, Nak'azdli Band |
| Consultant | - John Boyle, P.Eng., Dayton & Knight Ltd. |
| District Manager | - Dan Zabinsky, District of Fort St. James |
| Project Manager | - Joel Barkman, PEng, CSTC, Technical Services Unit |
| INAC contact | - Frank Gelinas, Capital Specialist |

Band Project Coordinator

The Band Project Coordinator will be responsible for the following:

1. awarding contracts on behalf of Chief and Council,
2. processing and payment of bills,
3. providing project status reports to the Band Council and Project Manager.

District Manager

The District Manager will be responsible for the following:

1. providing documentation to confirm completed construction improvements debt reduction (attached).

Consultant

The Consultant will be responsible for the following:

1. completing a monitoring program to obtain data of the influent effluent quality from each lagoon cell to confirm actual performance of lagoons (duration 1 year);
2. completing a monitoring program to determine lagoon treatment efficiency including lab analyses (duration 1 year);
3. ensuring that work on the project is undertaken in a professional manner in conformance with all applicable federal and provincial regulations, codes and the terms of this project brief;
4. ensuring that the project meets accepted engineering practice for the Province of B.C.

Project Manager

The Project Manager will be responsible for the following:

1. confirming member Band's requirements and project definition,
2. determining the best way to carry out the project,
3. developing work breakdown structure,
4. attending meetings as required with the Project Coordinator, Chief and Council, Consultant and District Manager,
5. correspondence as it relates to the project,
6. preparation of an Environmental Screening as per CEAA Legislation and ensuring that mitigation measures identified in the environmental screening are carried out,
7. maintaining project record and files,
8. providing project status reports to the Project Coordinator,
9. ensuring technical advice is provided to the Project Coordinator and District Manager on an as-required basis,
10. ensuring compliance with the terms of the contract,
11. resolving claims and disputes,
12. reporting on deficiencies to the Project Coordinator and District Manager and making recommendations on corrective action,
13. reviewing progress claims/invoices by Consultant and making recommendations for payment for the Project Coordinator,
14. coordinating the transfer of completion report, completion certificate and contract agreement to INAC.

III. PROJECT COSTS

Funds requested for a one time capital contribution for the Band's portion of the past sewage collection, treatment and disposal improvements (1984 - \$1.0 million) are:

		Band's Share (@ 25%)	
District Annual Debt Repayment	\$85,952.00		
Less Provincial Grant	<48,708.00>		
Total District Annual Payment	\$37,244.00	\$9,311.00	
Band's portion of Debt Repayment (\$9,311 x 9 years)			\$83,799.00
1999 Sewage Lagoon Assessment	\$8,421.11	\$2,105.28	
2000 - Chlorine Contact Chamber Expansion	\$136,000.00		
Less Provincial Grant	<60,000.00>		
Total District Payment	\$76,000.00	\$19,000.00	
			\$21,105.28
Total Cost for Band's Share			\$104,904.28

Sewage Treatment Pre-design/Design

Sampling and laboratory analyses	\$15,000.00		
Engineering pre-design study	10,000.00		
		\$25,000.00	
Alternative 4 - Add fine bubble aeration to cells #1 & #2, convert cells #3 & #5 to fine bubble aeration			
Total estimated costs for Stage 1 & 2	\$366,000.00		
Estimated engineering fees @ 20% of \$366,000		73,200.00	
Septage Receiving Station (est.)	\$50,000.00		
Estimated engineering fees @ 20% of \$50,000		10,000.00	
			\$108,200.00
Allowance for Inflation @ 2%			2,164.00
Total Sewage Treatment Pre-design/design			\$110,364.00

Summary of Funds Required

One-Time Debt Reduction	\$104,904.28
Sewage Treatment Pre-design/Design	110,364.00
Sub total	\$215,268.28
Contingency @ 10% of \$110,364.00	11,036.00
CSTC, TSU Project Management Fees @ 3% of \$110,364.00	3,311.00
Total Funds Requested	\$229,615.28

LIST OF APPENDICES

Appendix "A" - Capital Project Proposal Review Document
Appendix "B" - Environmental Assessment Record & location drawings
Appendix "C" - District of Fort St. James letter of 10/23/00, 11/3/00 & By-Law 404
Appendix "D" - Band Council Resolution
Appendix "E" - District's letter of December 14, 2000
Appendix "F" - Copy of MTSA
Appendix "G" - Encumbrance Clearance 4/30/01

Attached separately: District of Fort St. James Sewage Treatment Lagoon Assessment, June
2000

APPENDIX "A"

APPENDIX A

CARRIER SEKANI TRIBAL COUNCIL, TECHNICAL SERVICES UNIT
CAPITAL PROJECT PROPOSAL REVIEW DOCUMENT

A. PROJECT DATA

First Nation: Nak'azdli Band
Reserve Name & No.: Necoslie I.R. No. 1
Project Name: Wastewater Collection, Treatment & Disposal Improvements
Total Project Cost: \$229,615.28
Current Year Allocation: _____
Prime Consultant: District of Fort St. James & Dayton & Knight Ltd.
Project Coordinator: Aileen Prince, Nak'azdli Band
Project Manager: Joel Barkman, P.Eng., CSTC, Technical Services Unit

B. PROJECT PROPOSAL

Feasibility:	_____	Design:	_____	Construction:	<u>X</u>
Project Plan:		Yes	<u>X</u>	No	_____
Environmental Assessment:		Yes	<u>X</u>	No	_____
Land Encumbrance		Yes	<u>X</u>	No	_____
Comments:	_____				

Project Manager:

Joel I. Barkman
(signature)

Date:

May 17, 2001

C. TECHNICAL ENGINEER APPROVAL

The attached and defined capital project meets engineering practices for the Province of British Columbia. The cost for the project is reasonable and is the most cost effective option. Therefore, the project is recommended to the Department of Indian Affairs and Northern Development for Project Approval as described above and subject to the following conditions: (if any, please describe)

Joel I. Barkman
Joel I. Barkman, P.Eng.

Carrier Sekani Tribal Council,
Technical Services Unit
Prince George, British Columbia

Date:

May 17, 2001

APPENDIX "B"

ENVIRONMENTAL ASSESSMENT SCREENING REPORT

Indian and Northern Affairs Canada - British Columbia Region

Released under the Access

to Information Act

Révisé en vertu de la

Loi sur l'accès à

l'information

Environmental Assessment Information Type ☐ Policy EA ☐ CEAA Stage ☐ Outline ☐ Report ☐ N/A

Information to be provided by DIAND Public Registry Clerk for CEAA Projects Only

RA Reference No.: FEAI No.: File No.: E5010 - 3 -

Project Title: Wastewater Collection, Treatment & Disposal Improvements

Band Name: Nak'azdli Band Band No: 614

Reserve Name: Necoslie I.R. #1 Reserve No: 07538

Band Address: P.O. Box 1329, Fort St. James, BC Postal Code: V0J 1P0

PART A: SCREENING					PART B: INFORMATION SOURCES		
Valued Ecosystem Components (VEC)	Summary of Effects*				Information Sources	Used	On Public Registry [CEAA only]
	N/A	U	I	S			
Ground Water			X		First Nations	X	
Surface Water			X		Feasibility Study		
Aquatic Biology	X				Engineering Design		
Air Quality			X		Terrain Analysis Study		
Land/Soil			X		Environmental Study		
Flora (Vegetation)	X				Site Reconnaissance		
Fauna (Wildlife)	X				Published Literature		
Habitat	X				Consultations/Meetings	X	
Noise	X				Correspondence	X	
Special Places**	X				Federal Gov't Depts.		
Health and Safety			X		Prov./Municipal Gov'ts	X	
Socio-economic	X				Other (specify)		
Recreational Resources	X						

*Effects (N/A=not applicable; U=unknown; I=insignificant; S=significant)

**Special Places (Cultural, Traditional, Historical, Scientific, Archaeological, Palaeontological)

Part C: Screening Decision - Choose appropriate decision from list below and enter here 01

- 00 Environmental Assessment under way - no decision yet
- 01 Effects not likely significant (considering mitigation) and public concern does not warrant further assessment - project proceeds
- 02 Effects likely significant and cannot be justified - project does not proceed
- 03 Screening determined mediation or public panel needed
- 04 Comprehensive Study determined mediation or public panel needed

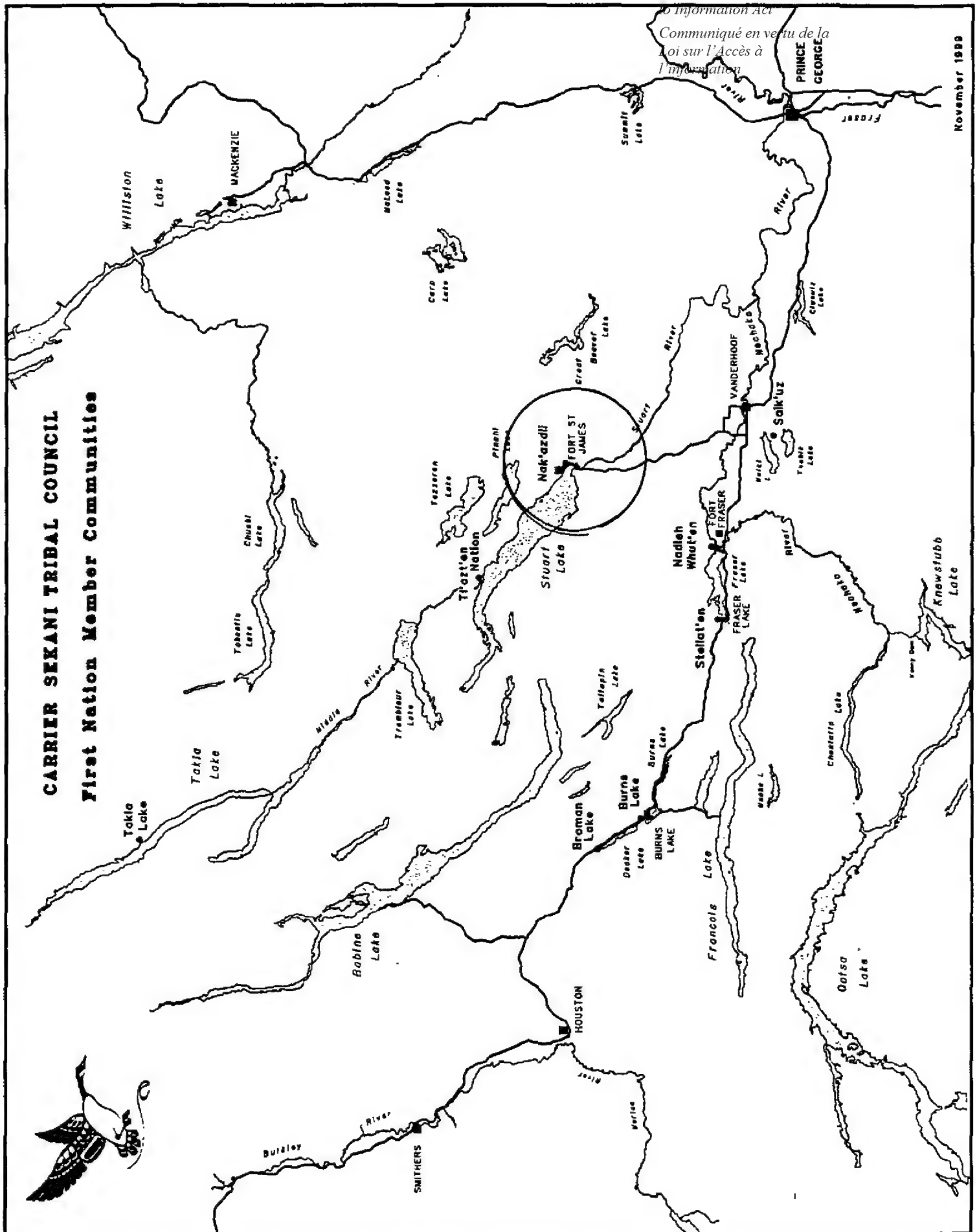
FOLLOW UP/MONITORING PROGRAM REQUIRED with SUBMITTED REPORTS TO DIAND: ☐ YES ☐ NO ☐ N/A

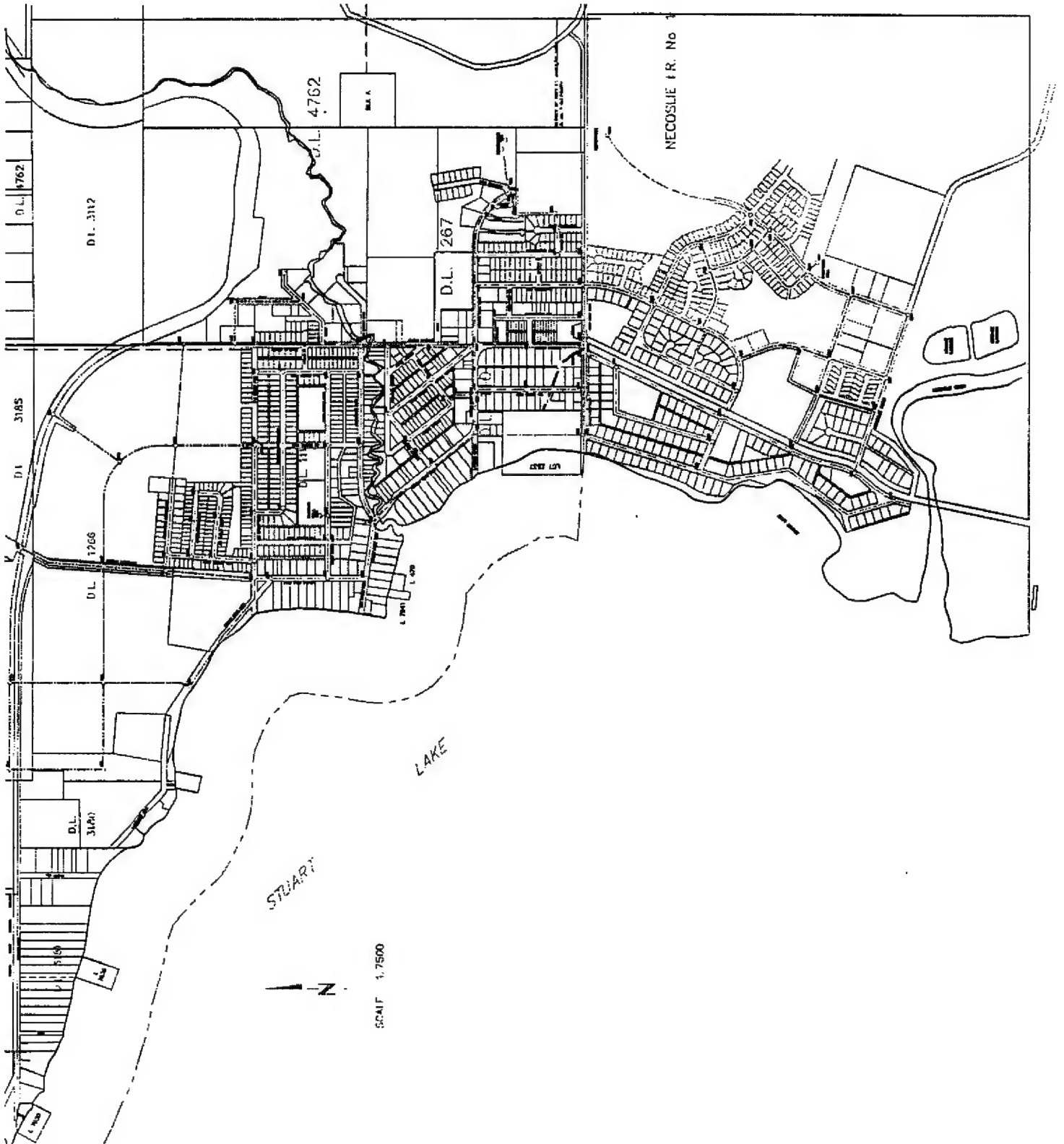
Screening Decision By: DIAND Officer or PWGSC (Print Name & Org.)

Signature

Date

CARRIER SEKANI TRIBAL COUNCIL
First Nation Member Communities





* Drawing taken from 6/98 PDP

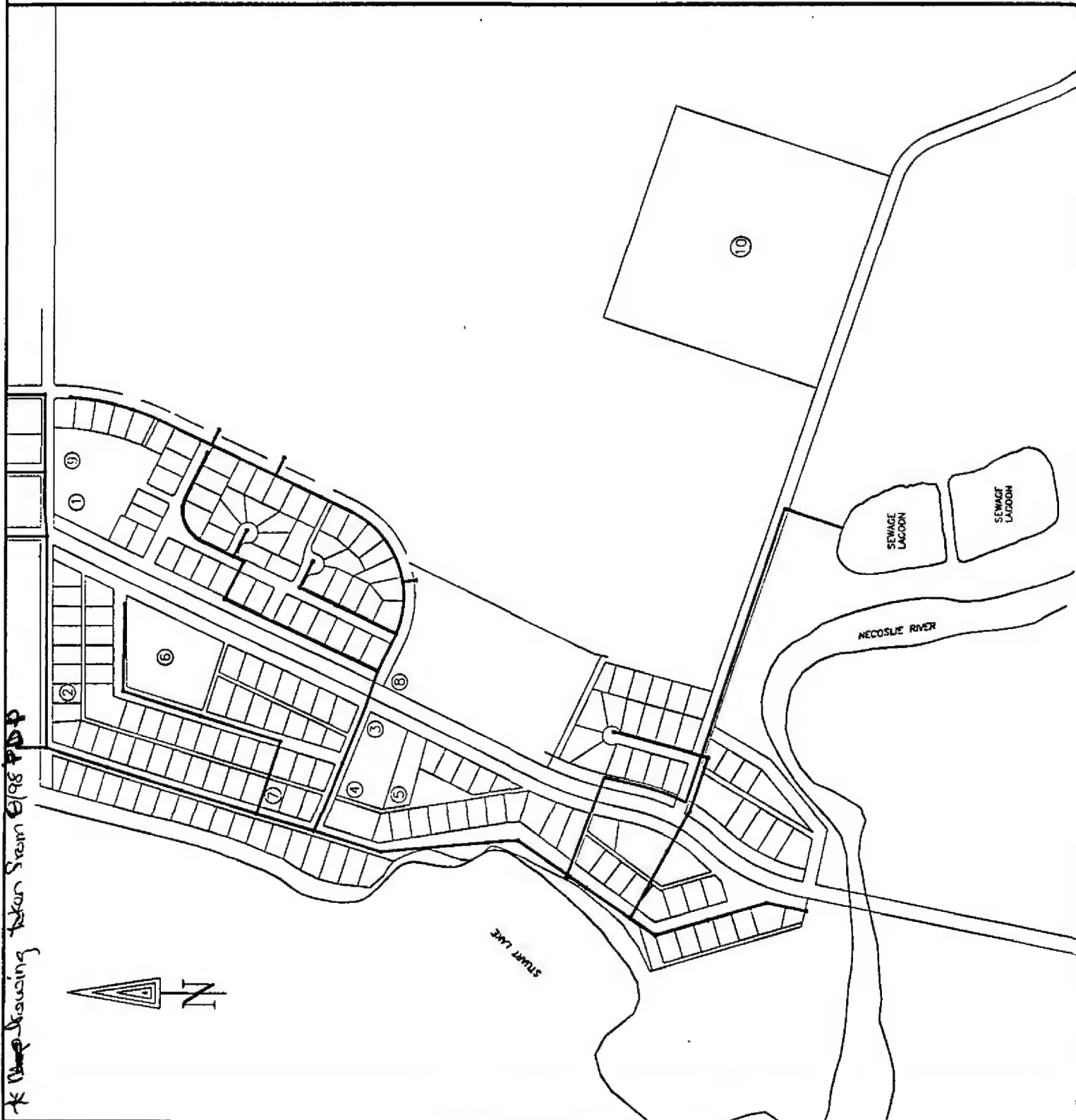
NAK'AZDLI BAND

Map of Part of
Necoslie
I.R. No. 1

EXISTING SEWER

- Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information
- 1 Kwah Hall / Band Office
 - 2 Craft Store
 - 3 Nursery School
 - 4 Works Yard
 - 5 Church
 - 6 Playing Field
 - 7 Health & Welfare
 - 8 Gas Station
 - 9 Medical Clinic
 - 10 Mill Site

FIGURE 8



APPENDIX "C"



District of Fort St. James

INCORPORATED 1952

• DRAWER 640 • FORT ST. JAMES, BC. • V0J 1P0 • TEL. (250) 996-8233 • FAX (250) 996-2248

OFFICE OF ADMINISTRATION

October 23, 2000

FAX: (250) 562-0900

Joel Barkman, P.Eng.
Carrier Sekani Tribal Council
#200 - 1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

Dear Joel:

Thank you for attending our meeting of October 17, 2000 regarding the water and sewer service agreements.

You had a specific question on our long term debt for capital acquisitions. The information is as follows:

Water Fund Debt 1983 Borrowed \$1.2 million to construct a 500,000 gallon water tower.

Sewer Fund Debt 1984 Borrowed \$1.0 million for lagoon improvements

- Increase from one cell lagoon to five cells
- Add aeration
- Add chlorination and dechlorination

Both are considered as joint expenses.

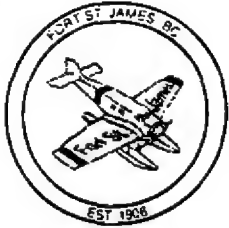
If you have any other questions please do not hesitate to contact me.

Yours truly,

Dan Zabinsky
For Dan Zabinsky
Administrator

DZ/sl
W:\Admin 2\carriersekaniwaterseweragreements.doc

Historic Fort St. James on the Shore of Stuart Lake - Oldest Established Community in British Columbia, 1606 A.D.



District of Fort St. James

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OFFICE OF ADMINISTRATION

November 3, 2000

Joel Barkman, P. Eng.
Carrier Sekani Technical Services
#200 - 1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

Dear Joel:

When we spoke this week you mentioned Frank Gelinas, Capital Specialist was looking for financial statements indicating what improvements were paid for by our water and sewer loans. I don't believe our financial statements show much detail so instead I have enclosed the relevant copies of Bylaws 388 and 404 from 1983 and 1984 which gives you more detail.

If this is not sufficient, please call me and I can arrange for more detail if it is needed.

Yours truly,

Dan Zabinsky
Dan Zabinsky
Administrator

DZ/bl
W:\Admin 2\carriersekani.doc

BY-LAW NO. 404

A by-law to authorize the entering into
of an Agreement respecting financing
between the Municipality and the Regional
District of Bulkley-Nechako.

WHEREAS the Corporation of the Village of Fort St. James (the
"Municipality") is a member of the Regional District of Bulkley-Nechako (the
"Regional District").

AND WHEREAS the Regional District may from time to time
finance at the request, cost, and on behalf of the Municipality pursuant to the
provisions of Section 798 of the "Municipal Act" the works to be financed
pursuant to the following load authorization by-laws:

By-Law No. 380 - "Fort St. James Sewer System Improvements
Loan Authorization By-Law No. 380, 1983"
- Improvements to the Fort St. James Sewer
System include upgrading to present treatment
facilities, and improving quality of effluent
discharge.

AND WHEREAS the amount of borrowing authorized by each of the
above by-laws, the amount already borrowed under the authority thereof, the
amount of authorization to borrow remaining thereunder, and the amount being
issued under the authority thereof by this by-law is as follows:

By-Law Number	Purpose	Amount of Borrowing Authorized	Amount Already Borrowed	Borrowing Authority Remaining	Term of Issue	Amount of Issue
380	Sewer Improve- ments	\$1,000,000	0	\$1,000,000	25 years	\$1,000,000
Total		\$1,000,000	0	\$1,000,000	25 years	\$1,000,000

AND WHEREAS the Municipal Council by this by-law hereby requests
that such financing shall be undertaken through the Municipal Finance Authority
of British Columbia by the Regional District.

NOW THEREFORE the Council of the Corporation of the Village of
Fort St. James in open meeting assembled enacts as follows:

1. The Regional District is hereby requested and authorized to finance
from time to time the aforesaid undertakings at the sole cost and on
behalf of the Municipality up to but not exceeding one million dollars
(\$1,000,000) in lawful money of Canada (provided that the Regional
District may borrow all or part of such amount in American funds or
United Kingdom funds, but the aggregate amount in lawful money of
Canada and in Canadian Dollar equivalents so borrowed amount shall
not exceed \$1,000,000 in Canadian Dollars), at such interest and with
such discounts or premiums and expenses as the Municipal Finance
Authority of British Columbia may deem appropriate in consideration
of the market and economic pertaining.
2. Upon completion by the Regional District of financing undertaken
pursuant hereto, the Mayor and Treasurer of the Municipality under its
seal, shall, at such time or times as the Regional District may direct,
enter into and deliver to the Regional District one or more agreements,
which said agreement or agreements shall be substantially in the form
annexed hereto as Schedule "A" and made part of this by-law (such
agreement or agreements as may be entered into, delivered, or
substituted hereinafter referred to as the "agreement"), providing for
payment by the Municipality to the Regional District of the amounts
required to meet the obligations of the Regional District with respect
to its borrowings undertaken pursuant hereto, provided that the
principal amount of the Agreement will not exceed the amount referred
to in Section 1.

3. The Agreement shall be dated and payable in the principal amount or amounts of monies and in such currency or currencies as shall be borrowed by the Regional District pursuant to Section 1 and shall set out the schedule of repayment of the principal amount together with interest on unpaid amounts as shall be determined by the Treasurer of the Regional District so as to be consistent with the repayment of monies being borrowed by the Regional District to finance the said undertakings of the Municipality as authorized by this by-law.
4. The obligation incurred under the said Agreement shall bear interest from a date specified therein, which date shall be determined by the Treasurer of the Regional District, and shall bear interest at a rate to be determined by the Treasurer of the Regional District so as to be consistent with the rate of interest payable on monies raised by the Regional District in order to finance the said undertakings in the amounts as authorized by this by-law.
5. The Agreement shall be sealed with the seal of the Municipality and shall bear the signature of the Mayor and Treasurer.
6. The obligation incurred under the said Agreement as to both principal and interest shall be payable at the principal office of the Regional District and at such time or times as shall be determined by the Regional District so as to be consistent with the repayment of principal together with interest on unpaid amounts of money being borrowed by the Regional District in order to finance the undertakings of the Municipality as authorized by this by-law.
7. If during the currency of the Agreement issued hereunder to secure borrowing in respect of the By-Law No. 380, "Fort St. James Sewer System Loan Improvements By-Law No. 380, 1983", the anticipated revenues accruing to the Municipality from the operation of the Sewer Utility are at any time insufficient to meet the annual payment of interest and the repayment of principal in any year there shall be levied a rate or rates over and above all other rates upon all land and improvements subject to taxation for general purposes in the Municipality in the same manner and at the same time as other rates an amount sufficient to meet such insufficiency.
8. The Municipality shall provide and pay over to the Regional District such sums as are required to discharge its obligations in accordance with the terms of the Agreement, provided, however, that if the sums provided for in the Agreement are not sufficient to meet the obligations of the Municipality, such deficiency shall be a liability of the Municipality to the Regional District and the Council of the Municipality shall make due provision to discharge such liability.
9. The Municipality shall pay over to the Regional District at such time or times as the Treasurer of the Authority so directs such sums as are required pursuant to Section 13 of the Municipal Finance Authority of British Columbia Act to be paid into the Debt Reserve Fund established by the Authority in connection with the financing undertaken by the Regional District on behalf of the Municipality pursuant to the Agreement.
10. This By-Law may be cited as "Fort St. James Security Issuing By-Law No. 404, 1984".

READ A FIRST TIME THIS 4TH DAY OF JULY, 1984.

READ A SECOND TIME THIS 4TH DAY OF JULY, 1984.

READ A THIRD TIME THIS 4TH DAY OF JULY, 1984.


RECEIVED THE APPROVAL OF THE INSPECTOR OF MUNICIPALITIES THIS
15th DAY OF AUGUST , 1984.

RECONSIDERED AND FINALLY PASSED AND ADOPTED THIS 5TH DAY OF
SEPTEMBER , 1984.


MAYOR R. GINGRICH


CLERK/ADMINISTRATOR IAN G. TURNER

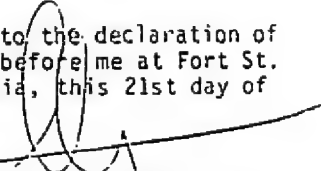
Certified to be a true copy of the "Fort St. James Security Issuing By-Law No.
404, 1984", as at third reading.


CLERK/ADMINISTRATOR IAN G. TURNER

"I hereby certify the foregoing to be a true copy of 'Fort St. James
Security Issuing Bylaw No. 404, 1984', as reconsidered, finally passed,
and adopted on September 5, 1984."


CLERK/ADMINISTRATOR IAN G. TURNER

"This is Exhibit 'A' to the declaration of
Ian G. Turner, sworn before me at Fort St.
James, British Columbia, this 21st day of
November, 1984."


A Commissioner for taking affidavits for
B.C. or a Notary Public in and for the Province.

CHRISTOPHER K. WINGHAM
Barrister, Solicitor, Notary Public
BOX 1439, VANDERHOOF, B.C.

A true copy of By Law No. 404
registered in the office of the Inspector
of Municipalities this 20 day of
Nov. 1984.


Inspector of Municipalities

C A N A D A
PROVINCE OF BRITISH COLUMBIA

A G R E E M E N T

The Corporation of the Village of Fort St. James hereby promises to pay to the Regional District of Bulkley-Nechako the sum of _____ in lawful money of Canada, United States of America, or United Kingdom, together with interest thereon from the _____ day of _____ at varying rates of interest calculated semi-annually in each and every year during the currency of this Agreement; payments shall be as specified in the table appearing on the reverse side hereof commencing on the _____ day of _____, provided that in the event the payments of principal and interest hereunder are insufficient to satisfy the obligations of the Regional District undertaken on behalf of the Municipality, the Municipality shall pay over to the Regional District such further sums as are sufficient to discharge the obligations of the Municipality to the Regional District.

Dated at _____, British Columbia, this _____ day of _____

IN TESTIMONY WHEREOF and under the authority of By-Law No. 404, cited as "Fort St. James Security Issuing By-Law No. 404, 1984".

This Agreement is sealed with the Corporate Seal of the

and signed by the Mayor and Treasurer thereof.

MAYOR

TREASURER

Pursuant to the Municipal Act, I certify that this Agreement has been lawfully and validly made and issued and that its validity is not open to question on any ground whatever in any Court of the Province of British Columbia.

Dated _____, 1984.

INSPECTOR OF MUNICIPALITIES OF
BRITISH COLUMBIA

PRINCIPAL AND/OR SINKING FUND DEPOSIT AND INTEREST PAYMENTS

Date of Payment	Principal and/or Sinking Fund Deposit	Interest	Total
	\$	\$	\$
	\$	\$	\$

APPENDIX "D"



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

Chronological no.

File reference no.

BAND COUNCIL RESOLUTION

NOTE:

The words "from our Band Funds" "capital" or "revenue", whichever is the case, must appear in all resolutions requesting expenditures from Band Funds.

The council of the		Cash free balance	
Nak'azdli Indian Band		Capital account	\$ _____
Date of duly convened meeting	Province	Revenue account	\$ _____
D M Y 0 9 0 5 0 1	British Columbia		

DO HEREBY RESOLVE:

010424.15

ON A MOTION DULY MADE (J. Owen Prince) **SECONDED** (Carl Leon)

THAT Nak'azdli Band Council approves the submission to INAC for the Sewage Improvements Project, totalling \$229,615.28.

MOTION CARRIED (7 for, 0 against, 0 abstention)

Quorum **Five (05)**

(Councillor)

(Councillor)

(Councillor)

(Chief)

(Councillor)

(Councillor)

(Councillor)

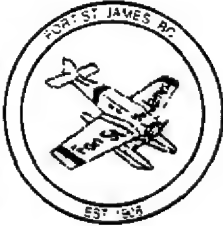
(Councillor)

(Councillor)

(Councillor)

FOR DEPARTMENTAL USE ONLY					
Expenditure	Authority (Indian Act Section)	Source of funds <input type="radio"/> Capital <input type="radio"/> Revenue	Expenditure	Authority (Indian Act Section)	Source of funds <input type="radio"/> Capital <input type="radio"/> Revenue
Recommending officer			Recommending officer		
Signature _____ Date _____			Signature _____ Date _____		
Approving officer - Approuvé par			Approving officer		
Signature _____ Date _____			Signature _____ Date _____		

APPENDIX "E"



District of Fort St. James

INCORPORATED 1952

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l'information

OFFICE OF ADMINISTRATION

December 14, 2000

Carrier Sekanni Technical Services
1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

ATTENTION: Joel Barkman

Dear Sirs:

Re: District of Fort St. James Water and Sewer Services

Water Fund Debt

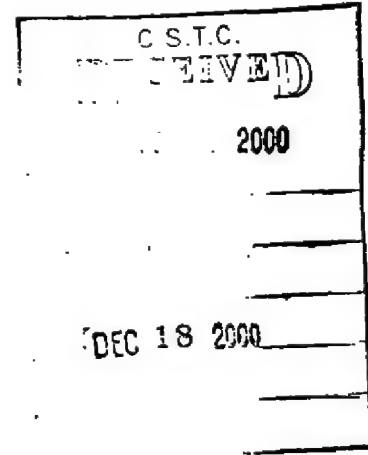
The \$1.2 million debt in our water fund was incurred in 1983. Prior to that time the municipality and band were served by the existing well which gave us adequate pressure but did not have the required fire flows, particularly for the schools and larger commercial buildings in town (Fort Hotel is a good example).

Associated Engineering was hired by the municipality to design, tender and construct a 500,000 gallon reservoir on land owned by the municipality just above the hospital. Associated Engineering also engineered the water lines from the existing well to the new tower and the gravity feed lines from the tower. In order to protect the old lines from blowing out, four pressure reducing stations were also installed. A few of the oldest water lines were also replaced.

The \$1.2 million debt was financed through the Municipal Finance Authority over 25 years at a rate of 11.5% for the first 10 years, resulting in payments of \$163,143 yearly. The provincial government gave a yearly grant in the amount of \$106,602 for a net payable of \$56,541 yearly on the debt repayment.

After 1993 the interest was renegotiated at 7.25% for a total yearly payment of \$112,143. The provincial grant amount was reduced to \$68,352 for a net payable of \$43,791 yearly on the debt repayment.

The debt repayment is scheduled to end in 2008.



We are currently considering a project that would install a variable speed pump at the wellsite. The purpose of the variable speed pump would be to ensure that during peak flow times (such as the summer, or when there is a fire) there will be a more regulated flow of water from the well to the tower. The pump would speed up or slow down according to the level of water in the tower.

We are also considering a large project that would provide a water treatment facility for the municipality and the band as well as supply and storage upgrades. I have enclosed the conclusions and recommendations from the 1997 Water Feasibility Study done by L & M Engineering. You will note that the maximum practical fire flows to the downtown area is well below the amount needed for the Fort St. James Hotel.

With the help of Canada/BC Infrastructure grants we have been able to upgrade our water lines on Ash Street and Douglas Street resulting in better fire flows. We have also engaged L & M Engineering to determine what size of variable speed pump would be adequate for our needs, and have budgeted for the pump and new wellhouse for 2001.

We are now considering a project that would include a water treatment facility, a new well, and a new storage facility. We feel that these are all needed to provide a safe, healthy water supply and to provide proper fire flows for our area.

It has been suggested that we tender out the design work and some of the firms that we would consider are L & M Engineering, Associated Engineering, Dayton & Knight and Novatec. The provincial government has approved a \$10,000 planning grant for this study.

The terms of reference would be as follows:

INTRODUCTION

Previous water studies for the District have focused on the capabilities of the water supply system to provide domestic and commercial water demands together with fire fighting flows. There has been no consideration of the capacity of the single artesian well, nor has any attempt been made to address water quality issues.

The economic circumstances in the Fort St. James area are expected to improve significantly in the near to medium term future with subsequent population growth. The Nak'azdli Reserve which is immediately adjacent to the town and is serviced by an integrated water supply and distribution system, is also growing rapidly and is attracting significant commercial and industrial growth.

Therefore Council would like to undertake a comprehensive engineering study focusing firstly on the capacity of the existing well and the potential for other groundwater sources in the area and secondly on the development of realistic water treatment options for water from the existing well. These would then be integrated with the recommendations of previous reports pertaining to reservoir expansion and distribution system upgrading, to provide the District with a comprehensive long-term plan covering all aspects of the water system.

SCOPE OF WORK

The proposed work program consisting of three parts:

1. Groundwater potential evaluation;
2. Bench scale and pilot scale treatability testing;
3. Integration of the results of the first two phases with previous studies.

Item 1 and 2 would proceed concurrently, although Item 1 will take less time to complete.

Groundwater Potential Study

The objective of this study is to assess options for increasing the groundwater supply rates. Options for achieving the increase include:

1. Increasing the rate of withdrawal from the existing well through using a larger pump.
2. Installing a second well in the same aquifer;
3. Exploiting other aquifers in the area.

The relative costs (exploration, testing, installation of production well; well head facilities, connection to the existing distribution system) of these options and other options which might arise will be assessed together with their relative merits and likelihood with respect to:

1. Probable water supply rate and quality;
2. Interference with other wells in the area;
3. Pumping requirements for differing locations;
4. Screen entrance velocities and probability of well encrustation, particularly with respect to the existing well.

In order to make these assessments, available existing data will be acquired, collated and interpreted including, but limited to:

- geological publications;
- aerial photographs;
- well records;
- water quality records
- hydrogeological reports

These assessments will be augmented by a two-day field trip to the Fort St. James area.

Water Treatability Study

This portion of the study would be broken into two phases (1) bench scale testing; and (2) pilot scale testing.

The District of Fort St. James

The first step in this portion of the work would be to test the existing water for the full range of water quality parameters. This would include well head testing for hydrogen sulphide. The results of these tests would be compared to historical results to see if there are any long-term trends in changes to water quality. Discussions would then be held with the District and the Nak'azdli Band to establish water quality goals.

The second step would involve off-site bench scale testing of various oxidation processes followed by filtration followed by lime softening. Residual levels of metals and hardness would then be measured. Varying dosage levels of oxidants such as air, chlorine and potassium permanganate would be evaluated for effectiveness. (The tests could not deal with hydrogen sulphide as it dissipates rapidly upon exposure to the atmosphere).

The third step is to present and report on the findings of the testing, and to identify where each process either meets or falls short of achieving the water quality goals developed in step one. Recommendations for pilot scale testing would be presented, including an evaluation of the potential for the use of membrane processes to achieve the District's water quality objectives.

Pilot scale testing would proceed following approval of the recommendations of the bench scale testing report. One of the two courses of action is envisaged:

- installation of multi-media filter columns
- or
- installation of membrane filtration equipment supplied by a manufacturer to be selected at the time.

Either would be preceded by oxidant dosage equipment and would be followed by lime softening equipment.

The equipment would be installed by the consultant who would train a member of the District staff to carry out simple tests, backwash the filters and record relevant data over the following weeks. It is likely that a small temporary addition to the existing well pump building would be required to house the equipment.

If membrane filtration was selected, a supplier's representative would assist in setting up the equipment and in training District staff.

The consultant would provide assistance and direction as necessary throughout the pilot scale testing process.

The results of the pilot scale testing would be compiled and analysed and recommendations made for full-scale treatment facilities. Capital and operating cost estimates would be provided in the report.

The District of Fort St. James

Integrated Report

The results of the groundwater potential study and the water treatability studies would be integrated with the results of the 1992 and 1997 water distribution and storage studies to provide the District with a comprehensive long-term plan. Through consultation with Council, and District staff, priorities would be established for upgrading water supply, adding additional storage facilities, upgrading the distribution systems; and constructing water treatment facilities.

Sewer Fund Debt

The \$1.0 million debt in our sewer fund was incurred in 1984. Prior to that time the municipality and the band were served by a one cell lagoon system with no treatment, no aeration and an overflow discharge into the Necoslie River. The size of the lagoon system was not adequate for the growing population and was not environmentally sound.

Associated Engineering was hired by the municipality to design, tender and construct an entirely new system on the same property consisting of five cells, aeration treatment, with chlorination and dechlorination. The lagoon size was expanded to 25 acres and the discharge was now clean water into the river.

The \$1.0 million debt was financed through the Municipal Finance Authority over 25 years at a rate of 13.25% for the first 15 years resulting in payment of \$153,452 yearly. The provincial government gave a yearly grant in the amount of \$99,334 for a net payable of \$54,118 yearly on the debt repayment.

After 1999 the interest was renegotiated at 6.5% for a total yearly payment of \$85,952. The provincial grant amount was reduced to \$48,708 for a net payable of \$37,244 yearly on the debt repayment.

The debt repayment is scheduled to end in 2009.

In 2000 the District engaged the services of L & M Engineering to design, tender and construct an expansion to our chlorine contact chamber which would effectively double the size. The project cost a total of \$136,000 with a provincial grant of \$60,000 resulting in a net payable by the District of \$76,000. The improvements will allow a greater output from the system during peak periods and eliminate backups.

In 1999 we engaged Dayton & Knight Engineering to prepare a sewage treatment lagoon assessment and we have forwarded a copy to you. I have enclosed a copy of the reports conclusions and recommendations.

We are working with the Regional District on a possible grant application for a septage receiving station. As well we are also working with them to look at alternate disposal systems.

In order for the proposed capital works to be constructed we would need financial help from the provincial government and the band. We would also need a water and sewer servicing agreement with the band so that we are being reimbursed for our expenses incurred to provide services to the band.

From our last phone call you had mentioned that you had contacted Frank Gelinis from INAC and the following could be negotiated with the band within a five year (or longer) agreement:


<u>Water Fund</u>	<u>Description</u>	<u>5 Year Total</u>
Debt Reduction	One time payment of \$87,582.00	\$ 87,582.00
Yearly Operating	\$8,989.27	44,946.35
<u>Sewer Fund</u>		
Debt Reduction	One time payment of \$121,766.53	\$121,766.53
25% of Dayton & Knight Study	One time payment of \$2,105.28	2,105.28
Yearly operating	\$18,604.05	93,020.25
Yearly Payment to Band for Lagoon Lease	\$17,640.00	<u>(88,200.00)</u>

In addition, INAC will pay for 100% of the cost of the engineering design for water purification and treatment and 100% of the cost of engineering design for work on the next phases of the lagoon work per the Dayton & Knight study, provided that Carrier Sekanni Technical Services is the project manager.

Both the municipality and the Band would agree to forgive all past debts up to July 31, 2000 and the new agreements would be a five year (or longer) period.

District Council has been briefed on this proposal and they have agreed to it. The final contracts would still need to be negotiated and ratified by Council.

Yours truly,


Dan Zabinsky
Administrator

DZ:bl
\\THE_SERVER\DATA\Admin 2\carriersekaniiwatersewer.doc

SECTION 5

CONCLUSIONS AND RECOMMENDATIONS

5.0 CONCLUSIONS

1. All small diameter lines (less than 100mm) should be replaced. These lines are inadequate for fire protection and their unknown location makes servicing a problem.
2. There is a major lack of fire protection in the downtown area. Currently the maximum practical fire flow that can be provided to the downtown area is 6.87 ML/d (1,050 Igpm). The guideline maximum fire is 27.48 ML/d St. James Hotel.
3. To provide sufficient fire protection, major upgrading is required, consisting of the following:
 - a) Addition of new waterlines.
 - b) Twinning of existing waterlines.
 - c) Upgrading the existing Fort St. James Well Pump and/or
 - d) Drilling a new well on the Necoslie Reserve.
4. The existing reservoir provides only 32% of the recommended storage capacity for both the District of Fort St. James and the Nak'azdli Band as a whole. For an integrated distribution system, an additional reservoir with a capacity of 4.80 ML is required. If the District and the Reserve were to separate the distribution systems, then a reservoir with a 4.05 ML capacity is required in the District and a reservoir with 1.58 ML capacity is required on the Reserve.

5.1 RECOMMENDATIONS

Based upon the computer modelling of the two supply, distribution and storage systems and good engineering practice, we recommend that the Nak'azdli Band and the District of Fort St. James:

1. continue to keep their two distribution systems fully integrated;
2. construct a second well on the Necoslie Reserve;

3. construct a second reservoir adjacent to the existing District reservoir.

Keeping the two distribution systems fully integrated provides the maximum amount of fire fighting protection to both parties. In fire fighting it is the first 10 to 20 minutes of the response time which are the most critical and usually determine the success or failure of the fire fighting effort. It is not possible to mobilize the manpower quickly enough to open the 3 interconnecting valves to re-integrate the two systems in this short time period.

Constructing a second well provides a duplication of facilities which is desirable. Because of the nature of the highly pressurized artesian aquifer, development of a second substantial well needs to be carried out at considerable distance (greater than one kilometre) from the existing well in order to minimize the interference between the two wells. The site selected in the Band's Physical Plan is approximately two kilometres from the District's well and should provide an excellent water source but is likely outside the artesian zone.

The site adjacent to the existing reservoir is preferable for the second reservoir because it is closer to the largest potential fires and because the connecting piping controls and access road are already in place. Thus it is over 10% less expensive to develop than a similar size reservoir on the Reserve.

DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Influent Works

We do not recommend any upgrade be done to the influent works at this time.

6.2 Sewage Collection System

The maximum day flow of up to 2.5 times the average day flow for current plant operation (1977 data) indicates that the sewage collection system is subject to significant infiltration and inflow during wet weather. The District should begin investigations to identify problem areas in the collection system, so that wet weather flows can be reduced, to prevent hydraulically overloading the plant beyond its permit capacity of 3200 m³/d.

6.3 Lagoons

We recommend that the District look towards converting the lagoon system from a coarse bubble aeration system to a fine bubble aeration system. The capital costs of upgrading the lagoon system with a fine bubble system are comparative to upgrading using a coarse bubble system. However, the fine bubble system offers significant energy savings.

We recommend the District proceed to the next stage of this study, which should include the sampling program (\$15,000) and associated study (\$10,000), as previously described. This would determine whether Alternative 4 is feasible, in which case we would recommend Alternative 4 be adopted, at a total estimated cost of \$366,000. Alternatively, the next least cost option is Alternative 3 for an estimated cost of \$626,000.

6.4 Septage Receiving Station

The septage facility should be constructed at the influent manhole immediately above the headworks at an estimated project cost of \$50,000.

6.5 Measurements and Analyses

We recommend the District continues to monitor plant effluent parameters (BOD₅, TSS and coliforms) on a regular basis. As effluent concentrations approach permit values, the District should consider the need for plant upgrade in the near future. Sludge levels in cell 4 should be monitored on an annual to bi-annual basis, to determine the need to remove sludge from this cell.

6.6 Summary of Report Findings

Table 6.5 below summarizes the report findings.

APPENDIX "F"

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SEWER SERVICE AGREEMENT

THIS AGREEMENT dated the 27th day of FEBRUARY, 2001,

BETWEEN:

DISTRICT OF FORT ST. JAMES

Drawer 640

Fort St. James, BC

VOJ 1P0

(hereinafter called the "District")

OF THE FIRST PART

AND:

NAK'AZDLI BAND, as

represented by the Band Council

Box 1329

Fort St. James, BC

VOJ 1P0

(hereinafter called the "Band")

OF THE SECOND PART

WHEREAS:

- A. the District and the Band are desirous of building the relationships between them and their respective inhabitants, and, in recognition of that desire, the intent of this agreement is for the parties to carry out the agreement in cooperation with each other, recognizing that each party has an obligation to safeguard the health of their respective inhabitants;
- B. the Band has requested the District to provide sanitary sewer service to lands within their Reserve, and
- C. the District Council is empowered and authorized by the *Indian Self-Governing Enabling Act*, with the approval of the Inspector of Municipalities, to enter into an agreement with the Council of an Indian Band to provide a Municipal Service or Services to land within a reserve, as defined in the *Indian Act (Canada)*; and
- D. the District Council and the Band Council have approved this Agreement by their respective resolutions attached as Schedules "A" and "B" to this Agreement.

NOW THEREFORE THIS AGREEMENT WITNESSES that in consideration of the mutual covenants and agreements contained and subject to the terms and conditions set out in this Agreement, the District and the Band agree as follows:

1.0 DEFINITIONS

In this Agreement for services:

- (a) "Band" means the Nak'azdli Band, Reserve #1, Fort St. James #7538.

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- (b) "Band Council" means the Band Council of the Nak'azdli Band within the meaning of the *Indian Act* or any successor to the Band Council under any successor Act.
- (c) "Band System" means the sanitary sewer collection system installed on the Reserve and includes all pipes, valves, sanitary sewer collection lines, pumping stations and equipment and the like on the Reserve and that portion inside the District boundaries to the point of the connection with the District System.
- (d) "Commercial Service Enterprise" means the selling of goods or services to the general public or other commercial or industrial enterprises with the purpose of earning a profit for the enterprise.
- (e) "District" means the District of Fort St. James.
- (f) "District Council" means the Council of the District of Fort St. James.
- (g) "District System" means the sanitary sewer collection and treatment system owned or controlled by the District under the *Local Government Act*, and includes all pipes, valves, sanitary sewer collection lines, pumping stations, trunk lines and treatment facilities.
- (h) "Industrial Service Enterprise" means the selling of goods or services to the general public or other commercial or industrial enterprises with the purpose of earning a profit for the enterprise.
- (i) "Reserve" means the lands vested in Her Majesty the Queen in the Right of Canada for the use and benefit of the Band, known as IR #1.
- (j) "Toxic Materials" includes sulphur, carbon, calcium carbide, or other flammable solids, calcium chlorate, sodium nitrate, ammonium nitrate, peroxides or other oxidizers, pesticides, herbicides, fumigants, cyanide or other poisonous materials, acids, caustic soda, bromine, lye, lime, potassium hydroxide or other corrosive materials, or PCBs, asbestos or any other material or substance that could be considered hazardous or toxic material.
- (j) "Trade Waste" includes any gasoline, turpentine, acetone, solvents, naphtha or other flammable or combustible liquid, grease, oil or other lubricant, mud, plaster of paris, clay or other material, fish offal, fat or other congealing materials, sand dirt, rock or other such material that could be considered trade waste.

2.0 PROVISION OF SANITARY SEWER SERVICE

- 2.1 The District shall, through the District System, make available to the Reserve, sanitary sewer service (the "Service") under the terms and conditions of this Agreement.
- 2.2 The Service shall be supplied in accordance with bylaws of general

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application to the District adopted by the District Council regulating sanitary sewer services from time to time during the term of this Agreement.

3.0 ANNUAL FEE

- 3.1 The Band shall pay to the District an annual fee of \$18,600.00 payable in advance on the first day of August in each year of this Agreement for service to residential housing units on the Reserve.

This clause replaces and supercedes the monthly user fee of \$1.50 per household unit or equivalent stated in paragraph 4 of the agreement made on January 11, 1971 between Her Majesty of Queen in Right of Canada and the Corporation of the Village of Fort St. James. All other provisions of the January 11, 1971 agreement remain valid.

- 3.2 The annual fee includes the costs of providing and operating the sewage lagoon, sewer trunk lines and lift stations, and does not include the debt repayment costs of the portions serving the common system.

3.3 COMMERCIAL SERVICES AND INDUSTRIAL SERVICE ENTERPRISES

- 3.4 All commercial services and industrial service enterprises that make use of the District system shall be invoiced according to the rates set in the bylaws of general application of the District which may be amended from time to time to reflect current costs. The District will invoice the Band for all commercial service and industrial service enterprises and the Band agrees to pay the said invoices within 30 days.

3.5 ONE TIME PAYMENTS

- 3.6 The Band shall pay the District after receipt of funds from the Department of Indian Affairs, a one time payment of \$104,904.00 (one hundred and four thousand, nine hundred and four dollars) for capital improvements, and recently completed chlorination improvements and lagoon assessment made to the joint system between 1984 and 2000 inclusive.

3.7 PAYMENTS GENERAL

- 3.8 (a) If the Band fails to make any payment required to be made hereunder, the District shall give the Band written notice that the amount owing must be paid within two months of the notice, otherwise, the District may invoke section 3.6 (b).
- (b) If payment under any part of this Agreement is in arrears for more than six months, the District may disconnect forthwith the Band System from the District System and terminate the Service and this Agreement, but the Band shall remain liable to the District for payment of all arrears under this Agreement until paid in full.

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- (c) If the failure by the Band to make the payments required under this Agreement results from a dispute over the amount owing to the District, the Band must request, within the two month notice period referred to in section 3.6 (a), arbitration to resolve the dispute over the amount owing.
- (d) Within two weeks of the Band requesting arbitration, the Band and the District must agree upon an arbitrator, and failing agreement each will select an arbitrator within one month of the date of the request, with each arbitrator selecting a third to chair the arbitration hearing. The arbitration hearing must take place within 60 days of the request for arbitration in the District or on the Reserve. The arbitrator(s) must deliver a decision within 30 days of the date of completion of the arbitration, and the parties agree to be bound by the decision and to share equally the expenses and costs of the arbitration.

4.0 TERM OF AGREEMENT

- 4.1 This Agreement shall be a term of nine years from the 1st day of August, 2000 to the 31st day of July, 2009.
- 4.2 If either party wishes to renew this Agreement, it must serve notice on the other party at least six months before the end of the term of the Agreement. If no notice is given, this Agreement expires at the end of the term.
- 4.3 Either party may refuse to renew this Agreement if the other party has, at any time during the term of the this Agreement, failed to perform its respective covenants and obligations under this Agreement in a timely manner, or if the terms and conditions of renewal have not been settled before the end of the term and the start of any period of renewal.

5.0 CAPITAL EXPENDITURES

All capital expenditures for works that pertain to capital improvements to the joint system shall be cost shared by the District and the Band.

Either of the parties after determining that a capital expenditure is desired, shall make application to the other party outlining the nature of the project, the proposed cost of the project and other pertinent details.

The parties shall negotiate a cost sharing arrangement for each project taking into account the ability of the parties to pay for the capital improvements, grant money available, the proportion of use of the capital improvements by each of the parties and any other items that the parties deem to be of merit.

Carrier Sekanni Tribal Council Technical Services Unit will make application on behalf of the Nak'azdli Band to the Department of Indian and Northern Affairs Canada for funding of the Band's portion of joint capital projects. In like manner the District of Fort St. James will secure funding for their portion of joint capital projects through appropriate channels.

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6.0 POINTS OF SUPPLY

- 6.1 The Service shall be made available by the District through the District System from the Band System at the point of collection on the boundary of the Reserve.

7.0 BAND SYSTEM

- 7.1 The Band shall own, operate, maintain, repair and construct extensions to the Band System at the sole cost of the Band as a condition of the District providing the Service.

8.0 PROTECTION OF SYSTEMS

- 8.1 For the purpose of assuring protection of the Band system and the District System, no person shall erect, place, install or maintain any building, structure or other works on, over or under any portion of the Band System so that it in any way interferes with or damages or prevents access to or is likely to cause harm to the Band System or the District System and the Band shall take all such steps as may be necessary to prevent such interference, harm or loss of access.
- 8.2 The Band and the District both agree that each will follow good engineering practices in the construction, operation and maintenance of their respective systems.
- 8.3 The District is responsible for maintaining the lift station, the trunk line and sewer lagoon on the Reserve and the Band hereby grants the District all necessary access to the Reserve for this purpose.

9.0 LIMITED USE OF SERVICE

- 9.1 The Band and the District will each notify the other if any aspect of the use of their system may adversely affect the other's system, and will give that notice as soon as the adverse effects of the use are known or anticipated.
- 9.2 The parties shall promptly notify each other orally or in writing of any interruption of or cessation in any part of their respective systems or of any breakdown requiring repairs an maintenance, that may affect the other's system or be contrary to the District's provincial permits for the District System.

10.0 RESTRICTIONS

- 10.1 This Agreement does not permit:
- (a) the connection or discharge of surface, storm or ground water into the Band System or the District System;

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- (b) the connection, either directly or indirectly, of roof leaders, foundation drains, field drains, sumps or any other collector of storm, surface or ground water to the Band System or the District System;
- (c) connections that allow sanitary sewage to be discharged from any premises on the Reserve into a storm drain or ditch;
- (d) Toxic Material or Trade Waster to be discharged in to the Band System or any part of it, nor into a storm drain or ditch;
- (e) steam exhaust, blow-off or drip from drip-pipe or any heated water to be discharged, directly into any sanitary sewers, storm drains, house drain, soil pipe, waste pipe or rain water conductor on the Reserve or forming part of the District System, until the temperature has been reduced to a maximum of 43 degrees Celsius.

10.2 Each party will give notice to the other as soon as they have knowledge of any of the events referred to in section 10.1, and will consult and cooperate on remediation, where required, of the affected system(s).

11.0 ACCESS

The District Administrator and District Public Works Department employees designated by him are authorized and empowered to enter on the Reserve to ascertain whether and ensure that all the requirements of this Agreement are carried out.

12.0 INDEMNITY

The Band hereby releases and forever discharges and indemnifies and saves harmless the District from and against any and all manner of actions, causes of action, suits, claims, costs, losses, demands and liability whatsoever at law or in equity which the Band or any other party may now or at any time hereafter have against the District in connection with the Reserve and the provision of the Services to the Reserve under this Agreement, except where caused by the negligence of the District.

13.0 TERMINATION AND ASSIGNMENT

- 13.1 Subject to section 3.6(b), this Agreement may be terminated in whole or in part upon either party giving two years written notice to the other party at their respective addresses, and any new residential, industrial or commercial premises be connected to the Band System during that period of time shall not take place without full consultation with the District.
- 13.2 This Agreement is not assignable by either party without the written consent of the other.

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14.0 NOTICE

14.1 Notice given under this Agreement shall be deemed to be delivered when:

- (a) served personally, on the date of service; or
- (b) mailed by prepaid registered mail to the address listed for that party on the first page of this Agreement or other address of which that party has in writing notified the other, on the earlier of the date received or the fifth business day following date of mailing at any Canada Post Office, but in the event of interruption of mail service, notice shall be deemed to be delivered only when actually received by the party to whom it is addressed.

14.2 The Administrator of each party shall be considered an agent by both parties to this Agreement for the purpose of service of notices.

15.0 INTERPRETATION

15.1 All references to each party herein are deemed to be references to the heirs, successors, permitted assigns, servants, agents and officials of the respective parties hereto whenever the context so allows.

15.2 This Agreement shall enure to the benefits of and be binding on the parties hereto.

15.3 Whenever the singular or masculine is used in this Agreement, it shall be deemed to include the plural, the feminine or the body politic or corporate as the context requires.

15.4 Waiver of any default by either party shall not be deemed to be a waiver of any subsequent default by that party.

15.5 The rights, powers and remedies of both parties provided in this Agreement are cumulative and not exclusive of any right, power or remedy that may be available to them at law or in equity.

15.6 Section headings are included for convenience only and do not form part of the Agreement and shall not be used in the construction or interpretation of the Agreement.

16.0 ENTIRE AGREEMENT

16.1 The whole Agreement between the parties hereto is set forth in this Agreement and no representations, warranties or conditions, express or implied, have been made other than those expressed.

16.2 This Agreement may be amended from time to time upon terms and conditions mutually acceptable to the Band and the District only if the amendments are in writing and executed by the parties hereto.

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17.0 RIGHT RESERVED

- 17.1 Nothing contained in or implied by this Agreement shall in any way prejudice or affect the rights and powers of the District in the exercise of its function under any public and private statutes, bylaws, orders and regulations.
- 17.2 This Agreement for municipal services shall not be construed as placing any greater obligation, responsibility or liability on the District in respect to the Band or the Reserve over and above the obligation, responsibility or liability which exists in law between the District and any property owner in the District.

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IN WITNESS WHEREOF the parties hereto have executed this Agreement as follows:

SIGNED SEALED AND DELIVERED
by the NAK'AZDLI BAND COUNCIL
pursuant to the consent of the majority
of the Councillors of the Band present at
a Council meeting duly convened at which
authority was given for the NAK'AZDLI
BAND to enter into this Agreement:

Witness

Address

Occupation

Chief

Councillor

Councillor

Councillor

Councillor

Councillor

THE CORPORATE SEAL of the
DISTRICT OF FORT ST. JAMES was
hereto affixed in the presence of:

Mayor

Administrator

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SCHEDULE A
DISTRICT OF FORT ST. JAMES
COUNCIL RESOLUTION
NOVEMBER 22, 2000

It was moved by Councillor MacDougall and seconded by Councillor Goerz that Council approve the offer from the Nak'azdli Band for water and sewer servicing agreements. Carried Unanimously.

Certified a true copy of Resolution dated November 22, 2000.

M. Malinsky
Dan Zabinsky Administrator

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SCHEDULE "B"

[Resolution of the Band Council]



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Document No. - N° document

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**BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE**

NOTE: The words "From our Band Funds", "Capital" or "Revenue", whichever is the case, must appear in all resolutions requesting expenditures from Band Funds.
NOTA: Les mots "des fonds de notre bande", "capital" ou "Revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes.

The council of the Le conseil de la bande indienne	Nak'azdli Band	Current Capital Balance Solde de capital	\$ _____
Agency Agence	BC North	Committed Engagé	\$ _____
Province	British Columbia	Current Revenue Balance Solde de revenu	\$ _____
Place Nom de l'endroit	Port St. James	Committed Engagé	\$ _____
Date	27th February AD 2001 Day - Mois - Année		

DO HEREBY RESOLVE:
DÉCIDE, PAR LES PRÉSENTES:

Nak'azdli Band Council, at a duly convened meeting held on February 27, 2001, approved the Municipal Type Service Agreements with the District of Fort St. James for the delivery of Water and Sewer Services on Nak'azdli Reserve.

A quorum for this Band
Pour cette bande le quorum est

consists of (05)
est de

Council Members
Membres du Conseil

Carl P... (Councillor - Conseiller)
... (Councillor - Conseiller)
... (Councillor - Conseiller)
... (Councillor - Conseiller)

... (Councillor - Conseiller)
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... (Councillor - Conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTRE

Band Fund Code Code du compte de bande	3. Computer Services - Services d'informatique A. Capital B. Revenue - Revenu	4. Expenditure - Dépense	5. Authority (Indian Act Section) Autorité (Loi sur l'Indien)	6. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
7. Recommended - Recommandé		Approved - Approuvé		
Date	Recommending Officer - Recommandé par	Date	Approving Officer - Approuvé par	

1-800-768-2142/2143

Canada

APPENDIX "G"



Indian and Northern
Affairs Canada
www.inac.gc.ca

Affaires indiennes
et du Nord Canada
www.ainc.gc.ca

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MAY 03 2001

Date April 30, 2001

Carrier Sekani Tribal Council
1450 - 6th Ave
Prince George, BC V2L 3N2

CS

MAY 3 2001

Your file - Votre référence

E4200-7538

Dear Joel:

Re: Land Encumbrance Check for Necoslie IR # 1 for CLSR 65735

As per your request the BC Region Indian Lands registry has been completed in regards to the above mention. Based on the following available information the site is on band land. There are standard utility permits for both hydro & telecommunications.

Please note that Land Encumbrance checks are valid for a year.

If you have any questions, please feel free to contact me at the telephone number listed below.

Yours truly,

Brenda Dempster
Funding Services /A/ Land Transaction Officer
BC Region
600 -1138 Melville Street
VANCOUVER BC V6E 4S3

Phone (604) 666-2954
FAX (604) 666-2046

Encl: 1.) Land Status Report & Supporting Documents
cc: Aileen Price - Nak'azdli band

Canada

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LAND STATUS REPORT

(FOR CAPITAL PROJECTS ONLY)

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Indian Band: <u>Nak'azelli Band</u>	Prepared By: <u>Brenda Dempster</u>
Reserve: <u>Ncedie 12th</u> (7538)	Title: acting /Land Encumbrance Researcher

1. The land(s) being reviewed are known as: CLSR 65735
BL 4111
2. Present land status (circle): Not I.R., Band Land, Surrendered/Designated Land, I.L.H Land, See Exceptions Noted Below
3. Are there any surveyed registered encumbrances that affect the reviewed land(s)? YES ___ NO ✓
4. Are there any unsurveyed registered interests that may affect the reviewed land(s)? YES ___ NO ✓
5. Are there any CP's, NE's, NETI's, Cardexes, Permits or Leases that may have affect? YES ___ NO ✓
6. Are there standard utility permits in place for the delivery of hydro and telecommunication services? YES ✓ NO ___
7. If Yes was answered to question 3, 4, or 5, please provide relevant details of the registered encumbrance in section 8 below.

9. What is the purpose of the land encumbrance check? design for improvements to the joint sewerage
treatment & disposal system
10. Are you aware of any pending land transactions that will/may affect the land(s) for which this land encumbrance check is being done? YES ___ , NO ✓ If Yes, please give brief details in the section below.

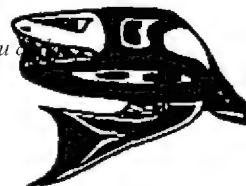
12. Capital Projects Officer Frank Deloria Telephone No. 666-9927
13. Regional Housing Officer _____ Telephone No. _____

14. I have researched the BC Region Indian Lands Registry with regards to the subject land(s). Based on our records, the subject area:
- ✓ may cause a conflict with existing registered interests.
✓ will not cause a conflict with existing registered interests.
___ will cause a conflict with existing registered interests.
- Signature Brenda Dempster Date April 30, 2001



Carrier Sekani Tribal Council

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to Information Act
Communiqué en vertu
de la Loi sur l'accès à
l'information



REPLY TO:

☒ PRINCE GEORGE OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8306

☐ HEAD OFFICE

Stellako Band Indian Reserve
Box 760
Fraser Lake, B.C.
V0J 1S0

April 27, 2001

File No.: 614-01-02

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

Attn: Brenda Dempster, Special Services Unit

Dear Ms. Dempster:

Re: Encumbrance Clearance for the Nak'azdli Band/District of Fort St. James

The Nak'azdli Band and the District of Fort St. James are planning to undertake a pre-design/design for improvements to the joint sewage treatment and disposal system. The site is located on reserve land leased to the District of Fort St. James. Please indicate if this project, shown on the attached maps, is on unencumbered Band land.

Reserve

Nak'azdli I.R.#1
Provincial Crown Land

Legal Plan

CLSR 65735
DL 4111

Thank you for your assistance with the above.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Joel I. Barkman, P.Eng.
Manager, Technical Services Unit

attachments

cc: Aileen Prince, Nak'azdli Band

Post-It Fax Note	7671E	Date	4/27/01	# of Pages	4
To	Brenda Dempster	From	Audrey O.		
Co./Dept.	Spec Services	Co.	Tech Services		
Phone #		Phone #	562-8999		
Fax #	666-2046	Fax #	562-0900		

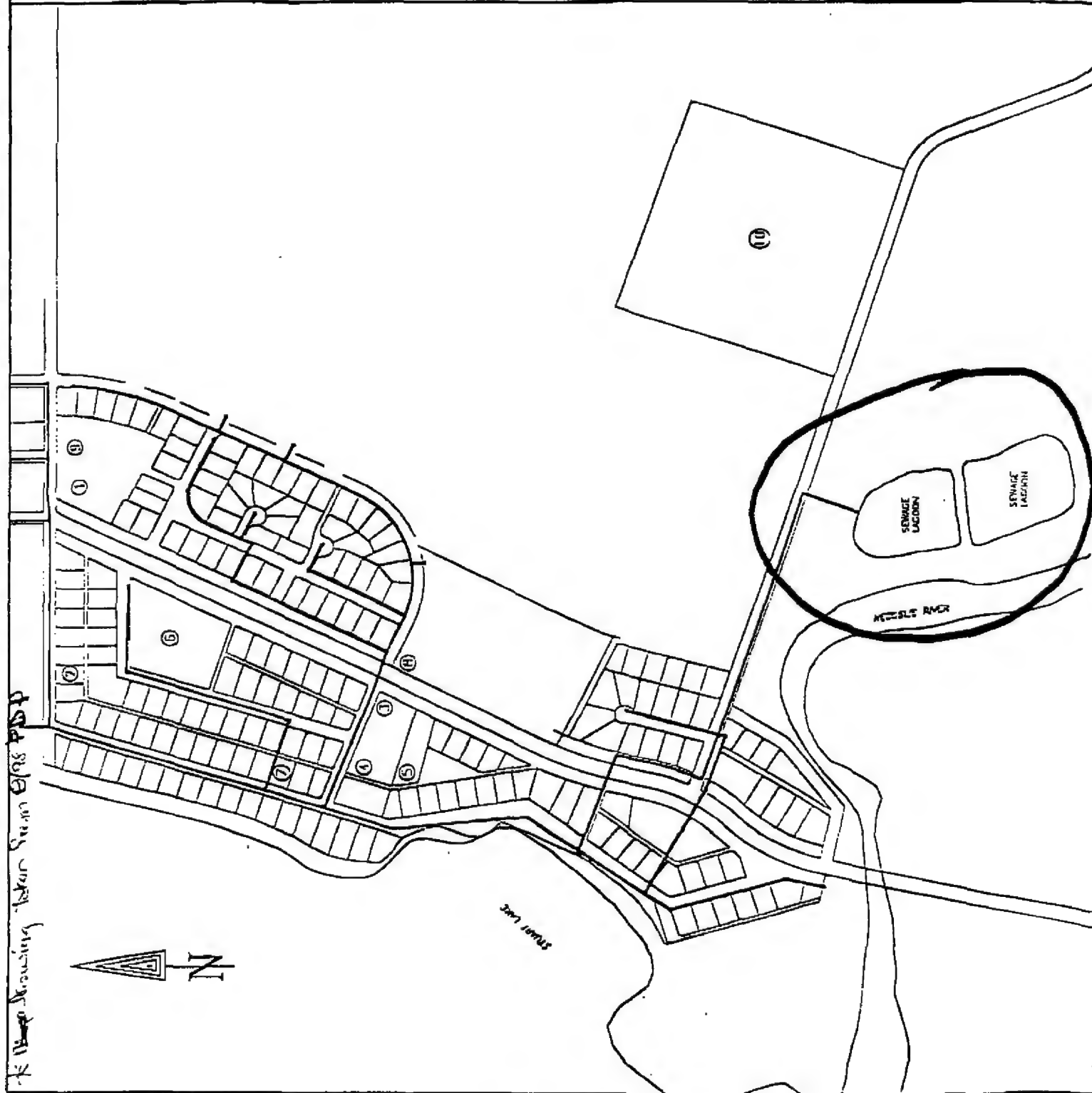
NAK'AZDLI BAND

Map of Part of
Necoslie
I.R. No. 1

EXISTING SEWER

- Released under the Access
to Information Act
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Loi sur l'accès à
l'information
- 1 Kwah Hall / Band Office
2 Craft Store
3 Nursery School
4 Works Yard
5 Church
6 Playing Field
7 Health & Welfare
8 Gas Station
9 Medical Clinic
10 Mill Site

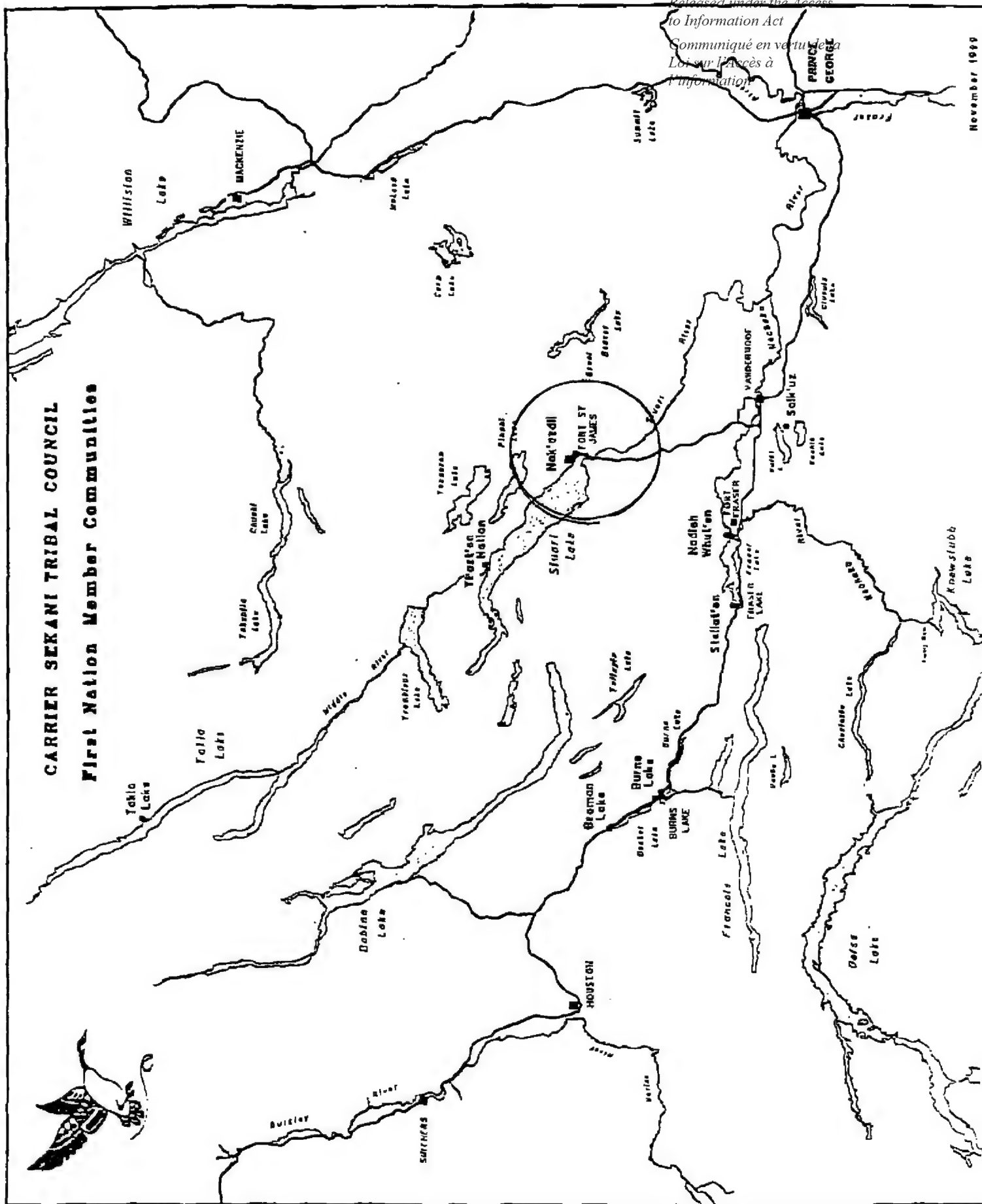
FIGURE 8

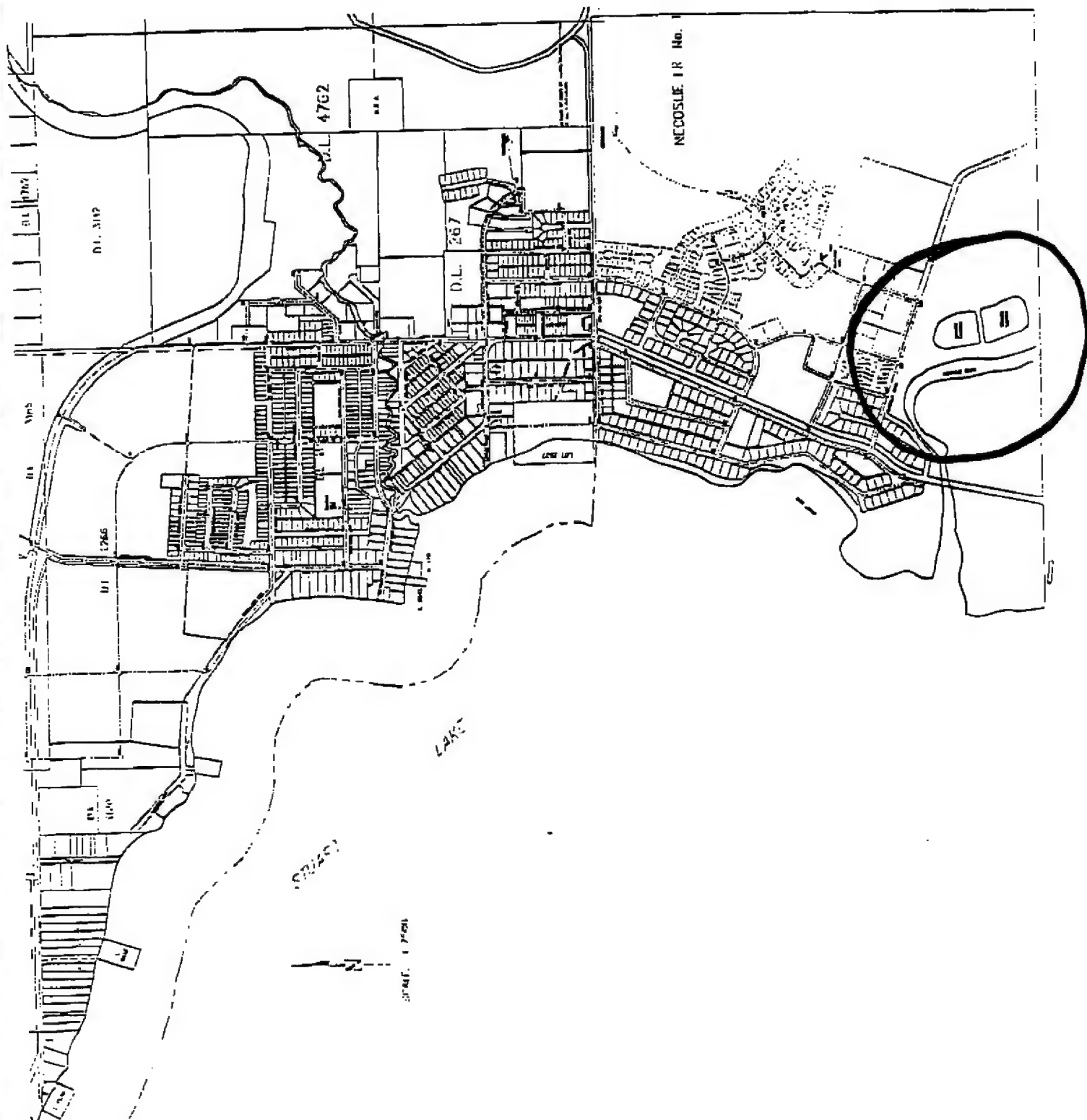


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November 1949

CARRIER SEKANI TRIBAL COUNCIL
First Nation Member Communities





DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON ASSESSMENT

PHASE I

JUNE, 2000

**DAYTON & KNIGHT LTD.
Consulting Engineers**

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

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- B – Waste Management Permit PE-00239**
- C – Fort St. James Data Sheet**
- D – Effluent flow Meter Records**
- E – Computer Modelling Data**
- F – Supplier Information**

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

EXECUTIVE SUMMARY

1. The Fort St. James lagoon system has 5 cells:

1. Anaerobic
2. Anaerobic
3. Aerobic
4. Aerobic
5. Aerobic

2. The Waste Management Act Permit (PE-00239) sets the effluent criteria as follows:

5 Day Biochemical Demand (BOD ₅)	30 mg/L
Total Suspended Solids (TSS)	30 mg/L
Maximum Rate of Sewage Discharge	3200 m ³ /d

3. Odours are reported to have been noticed in late fall, during winter foggy conditions and after the spring ice break. Incidences of odour complaints have reduced since the septage hauler has relocated discharging from near the lagoons to an upstream manhole.

4. 1997 area population data are:

District	2,130
Service Population	<u>3,176</u>
	5,306

The population connected to the lagoon system is:

District	1,900
Bands	<u>600</u>
	2,500
Plus Industrial/Commercial equivalent allowance	600
Plus Septage tank equivalent allowance	<u>770</u>
	3,870

The lagoon system is designed for 5,000 people.

5. The maximum day flow (1997) was 2.5 times the average annual flow. This indicates the sewer system has a substantial inflow and infiltration problem.
6. There is little data available on the plant influent concentrations. The study has therefore used typical data which should be verified through future sampling work.
7. The maximum permitted discharge quantity of 3,200 m³/day was exceeded once in 1997. This appears to be an extreme event. Flows are typically below the permitted discharge amount. Flows should be monitored to obtain a better understanding of discharges.

8. The lagoons are generally in good condition. From a preliminary reconnaissance of the site, there is no damage to the liner and no evidence of seepage or leakage from the lagoons.
9. Sludge has not yet been removed from any of the lagoon cells. This typically should occur every 10-20 years and the District should plan to do this on a consecutive cell basis.
10. Sludge depths were measured in cells 1 and 2 and an estimate made of the sludge depth in cell 3. This estimate should be verified.
11. There are reportedly plans to double the existing chlorine contact tank size. This will provide sufficient contact for only flows of up to 2,500 m³/d. This flow has been exceeded and a further expansion should be planned.
12. Effluent quality (BOD₅ and TSS) are generally satisfactory. Exceedances of the permit have occurred on some occasions due to pollen release (unavoidable) inflow and infiltration (can be reduced but may be cost prohibitive) and septage dumping (a septage holding tank would help).
13. The lagoons have adequate volume, both for present and future design conditions.
14. The aeration system is adequate for today's flows but not for future conditions. The District should plan to upgrade the aeration system in the next 5 to 10 years (possibly sooner if the mechanical equipment begins to fail before then).
15. Three alternative aeration improvement systems were evaluated. Estimated costs are summarized as follows:

Treatment Alternative	Treatment System	Stage 1 costs (1999 dollars)	Stage 2 costs (1999 costs)	Total Costs (1999 dollars)
1.	Coarse bubble	\$478,500	\$166,500	\$645,000
3.	Fine Bubble in cells 3, 4 and 5	\$474,000	\$152,000	\$626,000
4.	Fine bubble in cells 1, 2, 3 and 5	\$237,000	\$129,000	\$366,000

Note: Alternative 2 was considered in concept form and rejected.

16. A septage receiving facility is recommended with a cost estimate as follows:

Septage receiving station c/w 14 m ³ holding tank	\$31,000
Connect to sewer system	\$ 3,500
Miscellaneous Appurtenances	<u>\$ 4,000</u>
Sub-Total	\$38,500
Engineering & contingencies, GST (@ 3% Net) @ 30%,	<u>\$11,500</u>
TOTAL	\$50,000

17. The recommended aeration upgrade system, for a total estimated cost of \$366,000, has used some assumed loading criteria. These assumptions should be checked by carrying out some sampling work and having a laboratory analyse the results. Estimated costs are:

Sampling and Laboratory Analyses	\$15,000
Engineering pre-design study	<u>10,000</u>
	\$25,000

This work is recommended to be authorized by the District in the near future to enable appropriate planning for future upgrade work to occur.

Should alternate 4, not be feasible, following the recommended sampling and pre-design work, the next least cost option is Alternative 3 for an estimated cost of \$626,000.

18. The following table summarizes this study's findings and recommendations.

Summary of Report Findings

Item No.	Parameter/Treatment Component	Current Acceptable Under Present Conditions?	Acceptable for Future Conditions?	Need for Upgrade to Rectify Condition?	Recommended Measure
1.	Effluent BOD ₅ Concentration	Yes	No	Yes	Upgrade aeration system. See item 7.
2.	Effluent TSS concentration	Yes	Yes	No	None
3.	Effluent Coliform	Yes	No	Yes	See Item 9
4.	Infiltration and Inflow problems	No	No	Yes	Evaluate and repair sewer systems (detailed recommendation beyond scope of this report.)
5.	Influent works	Yes	Yes	No	None
6.	Septage Handling	Marginally Acceptable	No	Yes	Install septage holding tank
7.	In-tank aeration diffusers and piping	Yes	No	Yes	Upgrade per alternative 4 – fine bubble aeration.
8.	Aeration blowers	Marginally Acceptable	No	Yes	Replace blowers individually
9.	Chlorine Contact Tank	No	No	Yes	Increase capacity of existing tankage.
10.	Sludge Removal	Yes	No	Yes	None required for short to medium term – required in long term.

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

1.0 INTRODUCTION

1.1 General

The District of Fort St. James operates a lagoon facility for the treatment of domestic sewage. The system generally operates well, producing an effluent quality well within the limits of its permit. By way of a proposal to the District on September 30, 1998, Dayton & Knight Ltd was commissioned to carry out the first phase of a two phase study to assess the sewage treatment lagoon system. The plant was visited by Dayton & Knight Ltd in the fall of 1998 and again in February 1999. This initial phase of the study addresses the operation of the existing system, an evaluation of the impacts of receiving septage, the identification of maintenance issues and items in need of repair together with items requiring an upgrade to provide at least a twenty-year operation horizon. This phase of the study also examines odour-related issues and discharge criteria issues. The second phase of the work would involve any design issues from the Phase 1 work.

This report presents the results of the Phase 1 study, including an evaluation of the existing facilities, and some recommendations for improvements.

1.2 Conduct of Study

This study was completed by Mr. Kris Kingston, P.Eng., Mr. Ho-ping Wei, P.Eng., with input and direction by Mr. John Boyle, P.Eng.

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

2.0 EXISTING PLANT FACILITIES

Sewage enters the Fort St. James sewage treatment lagoon facility through a 300mm diameter sewer, which discharges into a series of five lagoon cells. Screening of the sewage is not provided at the facility prior to lagoon treatment.

The normal process stream flows sequentially from cell 1 into cell 2, etc, with cell 5 being the last step in the process. (Refer to Figure 1.)

Cells 1 and 2 are relatively small, anaerobic cells, with a retention time of approximately two days at the present estimated average daily flow of 1825 m³/d. Cell 3 is an aerated cell, with a retention time of approximately 15 days. Cell 4 is an aerated cell, which is used for effluent polishing prior to chlorination/dechlorination, and has a retention time of approximately 38 days. Cell 5 is an aerated effluent polishing cell prior to discharge to the Necoslie River. This cell has a retention time of approximately 3.5 days at the design average daily flow.

The wastewater flows from cell 4 into a chlorination –dechlorination contact chamber, and passes through a flow meter, which records the plant flows on a chart recorder. Chlorination occurs using chlorine gas, and dechlorination can be provided using sodium bisulphite solution. Dechlorination is not currently practiced, since the long retention and aeration provided in cell 5 is sufficient to remove any trace of chlorine in the effluent.

The lagoon cells are interconnected to each other using a system of pipes, manholes and intercell control structures. This enables changes to the flow configuration to be made for the purpose of isolating a lagoon for service or repair.

Aeration is provided in cells 3, 4 and 5, with most of aeration being provided in cell 3. Cell 4 receives only a small quantity of aeration near its effluent end and cell 5 receives a moderate

quantity of aeration. Aeration air is provided by three positive displacement blowers (one 37 kW, and two 18kW units). Typically, one 18kW unit operates during the winter months, and either one 37kW unit or both 18kW units operate during the remainder of the year. Each of the smaller blowers delivers approximately 330 L/s, and the larger blower delivers 570 L/s. Air is distributed to the lagoons by a system of submerged air piping, and is introduced into the lagoons by means of submerged coarse bubble (static tube type) aerators.

The plant effluent discharges from cell 5, into an outfall sewer that discharges into the Necoslie River. The outfall is provided with a diffuser to distribute the effluent across the width of the river.

Further information on the existing system is provided in the Operation and Maintenance Manual (Urban Systems, 1985), provided in appendix A.

2.1 Effluent Criteria

The Waste Management Act Permit (PE-00239) sets the effluent criteria as follows:

5 Day Biochemical Demand (BOD ₅)	30 mg/L
Total Suspended Solids (TSS)	30 mg/L
Maximum Rate of Sewage Discharge	3200 m ³ /d

A copy of the permit is included in Appendix 2.

2.2 Odours

There are occasions when odours are most noticeable. These are reported to be in the late fall, during winter foggy conditions, and after the spring ice break. From discussions with operations personnel, we established that:

- Odours, when noticeable, tend to be near the adjacent highway.
- Sludge has never floated to the lagoon surfaces.

- Odour complaints have diminished since the septage hauler ~~has~~ relocated the discharge point from near Cell No. 1 to an upstream manhole. This has resulted in providing some dilution to the septage before it reaches the lagoon system.

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

3.0 PLANT LOADINGS

3.1 Population

Some 1997 population information provided by the District is included as Appendix C.
That data indicates a population of:

District	2,130
Service Population	<u>3,176</u>
	5,306

Approximately half of these people are on sewer. From discussions with the District, the following was established for the population connected to the lagoon system.

District	1900
Bands	<u>600</u>
	2500
+ Industrial/Commercial population equivalent allowance	<u>600</u>
	3100

There is one septage tank hauling company that services the area. That Company advises that approximately 110 tanks are emptied annually and that tanks are emptied on average once every two years.

Assuming 3.5 persons per home, the equivalent population that is adding a biological load to the lagoons is $3.5 \times 110 \times 2 = 770$. Total connected population is estimated at $3100 + 770 = 3,870$.

This estimated total population equivalent connected to the lagoons of 3870 compares with the design capacity of the lagoon system of 5000.

For a 20 year planning horizon, and a 1.1% population growth rate per year, the 20 year population in the year 2,019 would be 4,722. If the population growth rate averaged 1.5% over the next 20 years the population would increase to just over 5,212 people. For the purpose of this pre-design work, a 20 year population of 5,000 has been assumed for this study.

3.2 Flows

As noted in Section 3.1 the treatment plant receives wastewater from an estimated 3,100 people.

Daily average flows are summarized in Table 3.2, as recorded by the effluent flow meter from January of 1995 through December of 1997. Copies of these flow records are enclosed as Appendix D. Flows were reasonably consistent throughout the year, except during the spring snowmelt period, when flows increased substantially. This increase in flow can most likely be attributed to a significant increase in infiltration and inflow to the District's sewer system. A review of this plant flow data from 1995 through 1997 shows that the ratio of daily flow (during peak month) to average annual flow was approximately 2.1 to 1.

The average daily flow for the period 1995 through 1997 was 1,285 m³/d. Based on a sewer population of 3,100, the per capita daily flow contribution is approximately 415 L/cap/d. This is consistent with the typical municipal water consumption allowance used in sewer design of between 350 L/cap/d to 450 L/cap/d.

For the purpose of conservative design, we have assumed a future design average daily flow of 1,800 m³/d based on a future sewer population of 4,000, at a per capita flow allowance of 450 L/cap/d. The flow contribution from septic tank users on a daily basis is

negligible, and will not be considered (although the contribution to the biological loading at the plant is considered later in this report).

The following table compares the flows during the period 1995 through 1997 for the average daily flow per year, to the average weekly day (maximum week), and the average monthly day (maximum month).

Table 3.2 - Current Flows to Treatment Plant

Year	1995	1996	1997
Ave. annual flow(m ³ /d) (A)	1,065	1,345	1,440
Ave. Weekly day (m ³ /d) (Max. out of 52 weeks)	0.750	2,216	3,399
Ave. Monthly day (m ³ /d) (Max. out of 12 months) (B)	1,750	1,786	2,853
Maximum day (m ³ /d) (Maximum out of 365 days per year)	2,016	2,456	3,575
Max. Monthly infiltration (m ³ /d) (A-B)	685	441	1,413

The permit for the plant requires that the plant does not discharge in excess of 3,200 m³/d. Although this was exceeded during one week in 1997, this was a rare event, and the study does not use this value for sizing the maximum plant design flow.

The difference between the annual average daily flow and the maximum monthly average day gives an indication of the maximum average infiltration for the wettest month of the year. This ranged from 685 m³/d to 1,413 m³/d, or approximately 65 to nearly 100% of the flow contribution from sewage alone. This indicates a sewer system which is in a relatively poor state of repair, and/or a system which has a high percentage of combined storm/sanitary sewers. We also understand that many basement pumps are hooked into the sewer system. This practice should be discouraged.

In order to calculate plant loadings, an infiltration flow of $850 \text{ m}^3/\text{d}$ has been used, which is approximately the daily average of the maximum month infiltration for the three years data on record. For the purpose of calculating plant loadings we have assumed that future population growth will be accompanied by improvements to the sewerage system to limit the contribution from inflow and infiltration, and that infiltration will not exceed 65% of dry weather flows.

A maximum day flow of $2,700 \text{ m}^3/\text{d}$ has been assumed for the maximum month under current conditions, and a maximum day flow of $3,000 \text{ m}^3/\text{d}$ has been assumed for the maximum month during future design conditions.

3.3 Organic Loadings

The primary organic loading parameters of concern are the total five-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS). At the time of this study, historical data were not available for the influent sewage strength to the plant (with the exception of two samples – discussed later). Also, the Operation and Maintenance Manual (provided in Appendix A) makes no reference to any design parameters for BOD_5 and TSS.

Effluent quality data for the facility is available, and a graph of this data is presented in Figure 2. Typical BOD_5 and TSS concentrations in the influent were calculated, assuming textbook guidelines for per capita BOD_5 and TSS daily loadings. These data are presented in table 3.3.

Two influent samples were analysed for BOD_5 and TSS. These samples indicated that the influent sewage is of low strength compared to the design criteria. These samples were taken at approximately 8:00 a.m., which is typically when the flow to the plant is at a peak, and when the plant influent will tend to be more dilute in comparison to later in the day.

TABLE 3.3
DISTRICT OF FORT ST. JAMES
LAGOON UPGRADE STUDY
JOB NO. 330.1

Design Parameter	Populations serviced by Treatment Plant	
	Current Conditions (3870 Population)	Future Conditions (5000 Population)
Households on septic systems	220	284
Assumed population per house	3.5	3.5
Population on septic system	770	995
Population on sewer system	3100	4005
Total Population	3870	5000
Per capita flow contribution from population on sewer system	415	450
Per capita flow contribution from population on septic systems	Nil	Nil
BOD5 contribution from septic tank users, kg/d (at 9g/cap/d)	7	9
BOD5 contribution from sewered population kg/d (at 100g/cap/d)	310	401
TSS contribution from septic tank users, kg/d (at 36 g/cap/d)	28	36
TSS contribution from sewered population, kg/d (at 120 g/cap/d)	372	481
Dry Weather Conditions - Theoretical		
Assumed dry weather average daily flow, m3/d	1285	1800
BOD5 concentration in influent, mg/L	247	227
TSS concentration in influent, mg/L	311	287
Wet Weather Conditions - Theoretical		
Assumed wet weather average daily flow, peak month, m3/d	2700	3000
BOD5 contribution from septic tank users at 9g/cap/d	7	9
BOD5 contribution from sewered population at 100g/cap/d	310	401
TSS contribution from septic tank users at 36 g/cap/d	28	36
TSS contribution from sewered population at 120 g/cap/d	372	481
BOD5 concentration in influent, mg/L	117	136
TSS concentration in influent, mg/L	148	172
Measured Conditions, March 29, 1999, Sample 1		
BOD5 concentration in influent, mg/L	70	-
TSS concentration in influent, mg/L	118	-
Measured Conditions, March 29, 1999, Sample 2		
BOD5 concentration in influent, mg/L	70	-
TSS concentration in influent, mg/L	120	-

For the purpose of design, the theoretical concentrations of BOD₅ and TSS were used (rounded up to the nearest 10 mg/L), since these figures are more conservative than the two sample readings. BOD₅ and TSS concentrations in plant influent can be extremely variable from one day to the next, and also variable depending on the time of day.

3.4 Septage

The District wishes to evaluate the impacts of receiving septage (pumpage from septic tanks) at the sewage treatment plant. As described in table 3.3, the per capita BOD₅ and TSS impact from the population on septic tanks is much less than the same per capita contribution from a sewered population. This is due to biological degradation which occurs within the septic tank systems.

Table 3.3 shows that the cumulative BOD₅ contribution from septic tank users is approximately 7 kg/d on average compared to the sewered population which contributes approximately 241 kg/d. Although the septic tank contribution is not significant when averaged over an entire day or year it has a large impact on the daily operations of the plant due to the septage being discharged to the plant sporadically, in high concentrations in large volumes, and over a relatively short period of time.

Mr. Reo Martin of the local septage hauling service advised that septage is hauled primarily during the months May through August. The quantity of septage delivered to the site varies from one half to a full truckload (approximately 9,000 litres [2,000 imperial gallons]). We understand the septage is relatively free of rocks, and contains a small quantity of non-biodegradable material.

A typical per capita loading for septage is 9 g/c/d TBOD₅ and 23 g TSS/c/d (Metcalf & Eddy, 1991). The strength of septage can be highly variable. However, typical values for TBOD₅ is 8,000 mg/L, and TSS is 30,000 mg/L. The table below compares the daily loading to the plant on a day when one full septage truck load is disposed to the plant

compared to the average annual conditions for present day conditions, during dry weather conditions.

Table 3.4 – Estimated Effect on Plant Loading from Septage

	BOD₅	TSS
Mass load (kg/d)	241	289
Mass Load (Kg/d), Summer-day of septage discharge	73	27.2
Increase in loading compared to Average Annual Flow (%)	30	94

The BOD₅ loading from septage has a large immediate impact on the oxygen availability in the lagoons, since the septage is typically dumped into the lagoon in a period of a few minutes. This practice has a tendency to impact effluent quality in the short term, until the system has a period of time to allow this excess load to be treated, diluted and passed out in the effluent. Secondly, this practice also has an impact on odour, since increased consumption of oxygen tends to favour septic conditions in the lagoons, which can result in odour production.

There is a greater impact from septage hauling operations on the TSS loading to the plant compared to BOD₅ loading. On average, TSS does not have a large impact on lagoon functioning, due to the large surface area available for this material to settle out, TSS can have a large impact on the plant performance during periods of high flow.

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

4.0 PLANT PERFORMANCE ANALYSES

4.1 Influent Works

The influent works at the Fort St. James treatment plant consist of a series of manholes that allow diversion of the inflow either into lagoon cells 1, 2, 3 or 4. Typically influent enters cell no. 1 first. We understand that no screening is provided prior to the sewage entering the lagoons. Often, screening is provided in a sewage treatment facility to keep out nuisance items such as rocks, plastics, wood, etc from entering the facility. Floating materials which enter lagoons create an unsightly mess on the lagoon surface. However, from discussions with Mr. Lars Sabbe (Public Works Superintendent) we understand that the lagoons have not experienced problems with floating materials. Therefore, we do not recommend the installation of screens for this facility.

4.2 Lagoons

4.2.1. Physical Condition of Lagoons

Except for a few minor items we understand that the lagoons are in a good state of repair and function well. There is no evidence of any damage to the liner of the lagoons and no evidence of seepage or leakage from the lagoons.

The inter-cell control structures between the lagoons also generally function well, although we understand that there has been some minor damage to some of the piping from these structures into the lagoons. Each of these pipes is only accessible when the lagoon that contains the pipe is emptied. It is not critical that these pipes be repaired immediately. The repair should occur when the associated lagoon is emptied for maintenance.

4.2.2 Sludge Removal

Typically, lagoon facilities are periodically emptied of accumulated sludge (say once every 10 to 20 years). This is required since settled sludge continues to impose a declining biological load to the plant. Unless the cells are emptied periodically, the sludge will typically build up to an extent where it will start to be carried over into the plant effluent.

We understand that the lagoons have not been emptied of sludge since being commissioned. To date, effluent quality has not suffered as a result of sludge accumulation as the lagoons are lightly loaded in relation to their large physical size. Sludge level measurements were carried out by District staff in 1999.

The sludge level measurements indicated that the average sludge depth in cell 2 is approximately 1.2 metres, and we have assumed that the sludge depth in cell 1 is similar. The combined estimated sludge volume present in these cells is approximately 1000 to 1300 m³.

Attempts were made to measure the sludge level within cell 3. Although it was not possible to detect any sludge, there will be some sludge in this cell. For a lagoon system such as this, the sludge in the third cell will have undergone degradation and the resulting sludge is typically of a light consistency which is hard to detect. For this phase of the study we have assumed that cell 3 contains a sludge depth of approximately 0.3m (1 ft). This should be verified.

4.2.3 Anaerobic Lagoon Cells 1 and 2

Lagoon cells 1 and 2 are anaerobic treatment cells, which serve as a primary treatment step. These cells serve to biodegrade the organic matter to a degree, and to settle out a portion of the suspended solids. Anaerobic cells are often used as a primary step in lagoon treatment since they are good at treating concentrated waste streams, and do not require the use of

oxygen – thus saving aeration costs. However, anaerobic cells are also not as efficient as aerobic treatment systems in removing BOD₅ and tend to produce more odours.

Effluent quality from lagoon cells 3, 4 and 5 is discussed separately in section 5 of this report which deals with maintaining effluent quality for present and future conditions.

4.2.4 Aerated Lagoons 3, 4 and 5

Aerated cells 3, 4, and 5 are provided with coarse bubble diffusers. We understand that this system is considered to be in satisfactory condition.

Aerated cells 3, 4, and 5 are provided with varying degrees of aeration. Cell 3 functions primarily to remove BOD₅ and has the most aeration (approximately 33 diffusers) of the three aerated cells. Cell 4 is primarily a settling basin using only 5 diffusers near its effluent end. Cell 5 is a polishing lagoon and it has 7 diffusers.

Cell 5 provides several safety factors including the removal of hydrogen sulphide should any still exist, the reduction of chlorine residuals if the dechlorination system is inactive or inoperable, the provision of additional BOD₅ removal in the event of malfunction or bypass of the other treatment cells, and the oxygenation of the effluent prior to its discharge to the Necoslie River. Dechlorination is not currently required as the chlorine has adequate time to dissipate in cell 5, assisted by the aeration provided in this cell. Due to the various functions provided by cell 5 we do not recommend doing any modifications to this cell, with the possible exception that the coarse bubble aeration can be eventually converted to fine bubble aeration (see later in report).

Effluent quality from the lagoons is discussed under section 4.3.

4.2.5 Chlorine Contact Tank

The existing chlorine contact tank situated between cells 4 and cell 5 has a capacity of approximately 52 m³. The MOE requires that chlorine contact time be a minimum of 60 minutes under all conditions. We understand that the District has undertaken the services of a separate consultant who recommends doubling the chlorine contact tank volume. While the chlorine contact time is adequate for present day conditions, for a 60 minute contact time there will be sufficient volume for flows of only up to 2,500 m³/d, which is below the maximum day permitted flow of 3,200 m³/d.

4.2.6 Aeration Blower System

The three existing aeration blowers have been in service for approximately 15 years. We understand that these units have been routinely serviced every two years, mostly by District Staff and that the units are in a relatively satisfactory condition. Since the units are nearing the end of their useful design life, the District should consider replacing these units, perhaps one at a time within the next five to ten years.

Aeration requirements for several future upgrading alternatives are reviewed under section 5, Alternatives for Upgrading. This section identifies the most cost effective means to upgrade and/or replace the existing blower system.

4.2.7 Chlorination and Dechlorination Systems

The plant uses chlorine gas stored in 150 lb cylinders to disinfect the effluent which is dosed to maintain a residual of between 0.5 to 1.5 mg/L of chlorine residual. Chlorine is used at the rate of 2 to 15 lbs/day, depending on inflow, or an estimated average of around 10 lbs/day. Chlorine cylinders are ordered 5 at a time which provides sufficient storage for 75 days on average. We consider there is sufficient storage capacity of chlorine on site to meet the present and future needs of the plant.

As discussed previously, the dechlorination system is not used. However, we understand that this system can be re-commissioned if required.

The chlorination and dechlorination systems are in suitable condition, although they have been in service for over 15 years and are realistically reaching the end of their useful life. Both systems have adequate capacity to handle the future design population of 5,000. We recommend maintaining both systems, until such time that maintenance costs and frequency become excessive. At that time, the systems should be replaced.

It is important to note that the new Municipal Sewage Regulation (MSR), which became effective on July 15, 1999, states that "The discharger must review and assess alternative disinfection methods before selecting the chlorination and dechlorination disinfection option" (Part 4, Subsection 8 (4)). This requirement is not applicable to existing permits which came into effect before the new regulation until such times as the District requires to upgrade the Permit. Under the new MSR, the amendment process which previously existed is no longer applicable. Instead an increase in flow requirement is now addressed by completing a registration package. Should plant flows approach or increase beyond 3,200 m³/d, a registration under the new MSR will be required. When that occurs, the MOE may require the District to investigate alternative means of disinfection.

4.3 Effluent Quality

Generally the effluent quality from the plant is satisfactory, and has rarely exceeded the permit limits of 30 mg/L BOD₅ and 30 mg/L TSS. Average effluent quality data is presented in table 4.1 below.

Table 4.3.1 – Average Annual Effluent Data

Year	pH	BOD ₅ (mg/L)	TSS (mg/L)	Fecal Coll. (CFU/100 mL)
1998	7.77	11	10	8
1997	7.66	10	22	1
1996	7.87	8	12	2

The data indicates that effluent BOD5, pH and fecal coliform concentrations are relatively stable, low and generally do not exceed the permit limit of 30 mg/L.

Figure 2 provides a historical trend of effluent quality data from 1996 through 1998. The data in Figure 2 indicate that effluent TSS concentration and fecal coliform counts peaked during all three years of data during the late spring and summer months of May through August. In 1997, the effluent TSS concentration exceeded the permit on several occasions. This is considered due to a combination of factors, which includes pollen release by surrounding trees, relatively high infiltration and inflow due to snow melt, and septage dumping. Mr. Lars Sabbe advises that the snowmelt runoff in 1997 was particularly high.

The pollen which settles on the surface of the lagoons are light, small particles which are hard to settle. The pollen particles are carried into the effluent in suspension, contributing to the effluent TSS, and indirectly to the Fecal Coliforms. High Fecal Coliforms counts tend to be associated with high suspended solids concentrations, because the sewage absorbed by the suspended solids particle goes untreated.

It is not possible to control the pollen release. Excessive infiltration and inflow to the plant can be controlled but only after significant investigations and repairs to rectify the infiltration and inflow to the sewer system. It is possible to control the rate of septage discharge to the plant as discussed later.

4.4 Design Analysis

The performance of the existing lagoon system was modelled on a computer spreadsheet for both the existing population of 3,100, and the design population of 5,000. The computer model was utilized for both the average day flow and the maximum daily flow conditions during the maximum flow month on record. The analysis modelled the average day flow based on the winter operation, and maximum flows in spring to model worst case

conditions. The results of this modelling are presented in detail in appendix E, and summarized in table 4.4.1.

The two anaerobic lagoons are complex to model, as there is a limited amount of research or operating data available on anaerobic treatment cells. We have used some empirical rules of thumb for estimating the treatment efficiency of these cells under various conditions.

Aerated cells 3, 4 and 5 act as partially mixed cells. These were analyzed by first order kinetics where the BOD₅ remaining after a certain time in a cell is calculated by the following equation:

$$C = C_o / (1 + k t_d)$$

where:

C	=	BOD ₅ in cell effluent
C _o	=	BOD ₅ entering cell
k	=	cell TBOD ₅ kinetic rate constant (days ⁻¹)

For this analysis, a partially mixed kinetic rate constant, (k_{PM}), of 0.276 day⁻¹ at 20°C was used. (This value is a commonly used design value suggested for use for partially mixed lagoons by W.E.F.). To adjust k_{PM} for the liquid wastewater temperature, the following formula is used:

$$k_T = k_{20} \times \Theta^{(T-20)}$$

where: Θ is assumed to equal 1.086 for partially mixed aerated cells

The analysis for summer water temperature was based on the maximum month flow rates, and the analysis for winter water temperatures was based on the average annual flow. The analysis is based on the influent concentrations shown in Figure 3.3. The cell oxygen requirements were based on a factored 2:1 ratio of O₂ required to BOD₅ removed. This

factor provides a safety margin to account for peak BOD₅ loadings, benthic demands, nitrification, and associated odour concerns should oxygen become deficient.

As previously mentioned, there is limited empirical data for calculating the performance of anaerobic lagoons. However, it is known that the treatment efficiency of anaerobic lagoons is low compared to an aerated lagoon. Effluent quality from anaerobic lagoons is typically twice as concentrated as that from aerobic lagoons. We have used this approximation in our study.

**Table 4.4.1 – Treatment Analysis
Theoretical Effluent Concentrations**

	PRESENT POPULATION (3100)		20 YEAR POPULATION (5000)	
	BOD ₅ Conc.(mg/L) [Winter, Average Annual Flow of 1,285 m ³ /d]	BOD ₅ Conc. (mg/L) [Summer, Maximum Month Flow of 2,700 m ³ /d]	BOD ₅ Conc.(mg/L) [Winter, Average Annual Flow of 1,800 m ³ /d]	BOD ₅ Conc. (mg/L) [Summer, Maximum Month Flow of 3,000 m ³ /d]
Influent	250	130	240	140
Cell 1 Effluent	230	112	216	132
Cell 2 Effluent	214	104	205	124
Cell 3 Effluent	84	43	97	54
Cell 4 Effluent	18	9	27	13
Plant Effluent	14	7	22	10

These empirical calculations show that the lagoon system has ample volume to achieve the required BOD₅ effluent requirements. The calculations predict a lagoon effluent in the order of 6 to 11 mg/L, for present as well as future conditions, which is below the permit requirement of 30 mg/L. The present day BOD₅ actual effluent quality is close to the predicted BOD₅ effluent quality for present day conditions, which lends confidence to the theoretical calculations.

The analysis shows that the two "difficult to treat" periods, i.e. ~~winter~~ and maximum flow month during summer, are comparable in the quality of effluent that can be expected.

Effluent SS quality cannot be similarly modelled. From our experience we know that effluent quality below 30 mg/L can be typically maintained if the retention time in the settling cell is at least 2 days. Cell 4, which functions as a settling cell has a retention time of 23 days, under future maximum day conditions. Under all normal operating conditions (with the exception of heavy pollen periods combined with high inflow), effluent quality for SS can be maintained below 30 mg/L by the existing plant.

The effluent quality data in table 4.4.1 is based on the assumption that the lagoon system is functioning normally, and that sufficient aeration is provided in the aerated cells lagoon to meet the treatment requirements.

Table 4.4.2 below compares the aeration provided in each of the cells to the approximate aeration required in each cell, in order to maintain the effluent quality shown in table 4.4.1 above.

Table 4.4.2 Air Flow Requirements

	PRESENT SEWERED POPULATION (3370), SUMMER, MAX FLOW MONTH		20 YEAR SEWERED POPULATION (5000), SUMMER, MAX FLOW MONTH	
	Max. Provided Aeration Air (L/s)	Theoretical Req'd. Aeration Air (L/s)	Max. Provided Aeration Air (L/s)	Theoretical Req'd. Aeration Air (L/s)
Cell 3	480	416	480	527
Cell 4	76	227	76	311
Cell 5	104	15	104	22

As is apparent from the table 4.4.2, for present conditions cell 3 has ample air supply, Cell 4 is deficient in air supply, and cell 5 has an excess of air supply. For the 20 year condition, cell 3 will be marginally deficient in air, cell 4 will be underaerated while cell 5 will have adequate air.

For the case of the Fort St. James system, effluent quality is generally satisfactory, indicating that for present conditions no overall additional aeration capacity is required although as noted, on an individual basis, cell 4 has less than half the aeration it should have. A substantial savings may be realized by upgrading to a different type of aeration system, as investigated later in this report.

4.5 Summary

The following table summarizes our conclusions regarding the plant performance analysis.

Table 4.5.1
Plant Performance Analysis Summary

Parameter/Treatment Component	Current System Acceptable for Present Conditions?	Current System Acceptable for Future Conditions?	Need for Future Upgrade to Rectify Condition?
Effluent BOD ₅ concentration	Yes	No	Yes
Effluent TSS concentration	Yes	Yes	No
Effluent Coliform Concentration	Yes	No	Yes
Infiltration and Inflow problems	No	No	Yes
Influent Works	Yes	Yes	No
Septage Handling	Marginally Acceptable	No	Yes
In-tank aeration diffusers and piping	Yes	No	Yes
Aeration Blowers	Marginally Acceptable	No	Yes
Chlorine Contact Tank	No	No	Yes
Sludge removal required	No	Yes	Yes

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

5.0 ALTERNATIVES FOR UPGRADING

5.1 Headworks

As discussed previously, we do not recommend any upgrading measures to the influent works at this time, as the plant is not experiencing any problems with screenings materials.

5.2 Lagoons

As summarized at the end of Section 4, the lagoons will require additional aeration to provide for future loading conditions. One solution is to increase the capacity of the existing system to meet the future demands. However, prior to upgrading the aeration system it is important to investigate other alternatives which may provide better energy efficiency, operational simplicity and/or reduced capital cost. We have reviewed four alternatives for lagoon upgrading as outlined below:

1. Upgrade the existing aeration system using coarse bubble aeration (similar to present system).
2. Supplement the existing aeration system using aspirating surface aerators.
3. Replace the coarse bubble aeration system in cells 3, 4 and 5 using a fine bubble aeration system.
4. Convert anaerobic lagoons 1 & 2 to aerated cells using fine bubble aeration, and also upgrade cells 3, and 5 using fine bubble aeration.

5.2.1 Alternative 1 - Upgrade the existing aeration system using coarse bubble aeration

The simplest alternative to allow for increased treatment capacity in the lagoon system is to increase the aeration capacity currently provided. This alternative would provide for

increasing the number of coarse bubble aerators currently installed, and increasing the capacity of the existing blower system by replacing one of the 25 hp blowers with a 50 hp unit, to meet the increased demand.

The aeration capacities in cells 3 and 5 are currently adequate. However, it would be necessary to add aerators to the front section of cell 4. Cell 4 would need to be provided with a central berm as indicated in Figure 3, to create two cells – one for aeration, and the second for sedimentation. The berm would be important in ensuring that the entire wastewater flow passes through both the aerated zone and the settling zone. Otherwise, it is likely that the flow would bypass a large portion of the cell.

Cell 4 would be provided with a new air header manifold, new submerged lateral piping and coarse bubble diffusers, as indicated in Figure 3.

The existing coarse bubble diffusers in cells 3, 4 and 5 will likely need to be replaced at the time when these cells are upgraded, since the diffusers are nearing the end of their design life. Therefore, we have included the cost to replace these units as well as the associated piping in our cost estimate.

The required work can be staged to meet the increasing demands due to population growth. It would be prudent to evaluate the improvement in effluent quality after the implementation of each stage

The cost estimate below shows the work to be done in two phases. Stage 1 work would comprise the work required to sub-divide cell 3 into two cells, provide aeration in one of the two newly created cells, and replace one of the existing blowers with a new unit. Stage 2 work would involve replacement of the existing diffusers in cell 3 and the polishing cell with new diffusers, and the replacement of the remaining two existing blowers. The replacement blowers would be larger capacity units compared to the existing blowers.

Stage 1 Work

Mobilization, Demobilization and Miscellaneous	\$15,000
Empty Cell 4 and remove sludge *	\$50,000
Construct new berm across Cell 4	\$158,000
New Inter-cell control structures and piping as required	\$55,000
Supply & Install steel air header pipe for cell 4A	\$ 23,000
Supply coarse bubble diffusers, valves and in-tank piping for cell no. 4A	\$ 15,000
Install Diffusers and piping	\$ 17,000
Remove existing blower & Supply and Install one new aeration blower	\$ <u>35,000</u>
Sub-total	\$368,000
Engineering & Contingencies, GST (@ 3% net) @ 30%	\$110,500
Total for Stage 1 Work	\$478,500

Stage 2 Work

Mobilization, Demobilization and Miscellaneous	\$ 10,000
Empty and bypass cells 3 and 5	\$ 7,000
Remove Existing diffusers	\$ 4,000
Replace two aeration blowers with new units	\$ 70,000
Supply diffusers, piping and valves in cells 3 and 5	\$ 15,000
Install Diffusers, piping and valves in cells 3 and 5	\$ <u>22,000</u>
Sub-total	\$128,000
Engineering & Contingencies, GST (@ 3% net) @ 30%	\$ <u>38,500</u>
Total for Stage 2 Work	\$166,500
Total for Alternative 1	\$645,000

* This does not allow for any possible landfill tipping fees.

5.2.2 Alternative 2- Aspirating Surface Aerators

This alternative would require the same lagoon modifications as per alternative 1, except that instead of installing coarse bubble aerators in the aerated part of cell 4, aspirating surface aerators would be provided. An aspirating surface aerator is a motorized mechanical aeration device, which has been used successfully at many lagoon treatment facilities to replace coarse bubble aeration systems. These units have relatively high oxygen transfer rates, and excellent mixing characteristics. Aspirating type aerators are straight forward to service, and are suitable for cold climates. In addition, units may be turned on or off to suit winter and summer oxygen demand conditions. The units should be fitted with electrical heaters, to ensure that the aerator shafts can be freed of ice prior to starting in the event of an extended power failure.

It is typically economical to replace a coarse bubble aeration system with aspirating surface aerators, in situations where the entire system needs to be replaced, and where the volume of the lagoons is relatively small in relation to the wastewater flow. However, the lagoon system at the District of Fort St. James is a system where the volume of the lagoons is large in comparison to the sewage flow, and where there is no immediate need to replace the entire aeration system. Therefore it would not be economical to install aspirating surface aerators at this facility, and this alternative has not therefore been considered any further.

5.2.3 Alternative 3 - Replace Coarse Bubble Aeration System with Fine Bubble Aeration

This alternative would require the same berm modifications to cell 4, as described in alternative 1. However, the existing coarse bubble aeration systems in cells 3, 4 and 5 would be replaced with fine bubble systems. The replacement of the coarse bubble systems with fine bubble systems would be staged, on an as-required basis, as lagoon system begins to show signs of reduced effluent quality, and/or when the existing coarse bubble diffusers begin to malfunction due to age.

The work required for Alternative 3 is illustrated in Figure 4.

The primary reason for replacing the coarse bubble aeration system with a fine bubble system is to reduce the annual electricity cost. Fine bubble aeration is a newer development than coarse bubble aeration, and typically offers an approximate 50% reduction in electrical power use for the same quantity of aeration compared to coarse bubble aeration. In the early years of use, fine bubble aerators were expensive, and were prone to clogging. Due to these reasons, and due to the relatively inexpensive cost of power, early systems generally used coarse bubble aeration systems. Over the last 5 years, with major improvements occurring in fine bubble systems, reductions in their purchase cost and with increasing power costs, fine bubble systems have become the system of choice.

The reduced air consumption results in only half the blower capacity being required for fine bubble compared to coarse bubble systems. If the entire Fort St. James system were to operate on a fine bubble system, it is estimated that for present day conditions only one 25 hp blower would need to operate during the summer, instead of 50 hp of blower output capacity currently needed. Similarly, for the future 5000 population, it is anticipated that 40 hp of blower output capacity would be required instead of 80 hp.

The current day cost savings that could be accomplished based on the above power savings is approximately \$8,000 per year for current conditions (25hp power instead of 50 hp). The future savings that can be accomplished based on the above power savings is approximately \$13,000. (The savings are assuming a power cost of 5 cents/kW.hr)

Diffused air systems for lagoons are available in both floating lateral and bottom-mounted lateral configurations. In the floating header configuration the lateral pipe is suspended on the surface of the lagoon. This system is economical to install, especially for retrofit installations where it is not necessary to empty the lagoons to install the system. However, we do not recommend this system for the Fort St. James treatment facility which experiences extreme winter conditions. Under these weather conditions a floating lateral pipe can be damaged by freeze-thaw cycles and wind blown ice.

The fixed header system utilizes a header pipe that is ballasted, and rests on the bottom of the lagoon. This type of system is not susceptible to ice damage, and is the recommended alternative. The diffusers are typically attached to ballast weights resting on the bottom, and connected to the air lateral by means of flexible tubing connections. The tubing connections are unrestrained. The diffusers are typically tethered to individual floating buoys. This allows surface retrieval of the diffusers for repair or replacement. By providing an extra number of tubing connections, it is possible to install additional diffusers at a future time, without draining the lagoons.

In 1998, Dayton & Knight was involved in a project for the City of Revelstoke, for replacing their coarse bubble system with a fine bubble system. This bottom mounted system operates satisfactorily.

The bottom-mounted system also has been installed at a number of lagoon systems in B.C. Operators at Armstrong, Invermere, Golden and Castlegar were contacted to discuss their experience with the bottom-mounted system. Overall the system is considered low in maintenance and effective, although these installations were all less than three years old. All of the references contacted reported that the lagoons were drained prior to installation of the air supply piping.

For the bottom-mounted system, the lagoons would require to be drained, the accumulated sludge removed, and the lagoon bottoms regraded prior to installation of the ballasted air supply piping. Overexcavation and construction of gravel support pads under diffuser ballasts would be required where soft areas are encountered in the lagoon bottom, to prevent uneven settling of the supply pipes and diffusers.

The replacement of the coarse bubble diffusers with a fine bubble system could be staged as required to meet the increasing population. It would be prudent to evaluate the resulting improvement in treatment after the implementation of each stage in order to plan for the

next stage. The priorities for staging the work required by alternative 3 is as follows, in order of priority:

1. Provide a berm in cell 4, and provide fine bubble aeration in one of the newly created cells.
2. Replace the aeration system in cell 3 with fine bubble diffusers.
3. Replace the aeration system in cell 5 with fine bubble diffusers.

A supply and installation cost estimate for upgrading the system using fine bubble aeration is shown below. The costs are broken down to two stages, as described earlier in this section, and a budget contingency amount for replacement of the blowers is included.

Stage 1 Work

Mobilization, Demobilization and miscellaneous	\$ 15,000
Empty Cell 4 and remove sludge *	\$ 50,000
Construct new berm across Cell 4	\$158,000
New Inter-cell control structures and piping as required	\$ 55,000
Supply & Install steel air header pipe for cell 4A	\$ 23,000
Supply fine bubble diffusers, valves and in-tank piping for cell no. 4A	\$ 20,000
Install Diffusers and piping	\$ 11,000
Remove existing blower & Supply and Install one new aeration blower	\$ <u>32,000</u>
Sub-total	\$364,000
Engineering & Contingencies, GST (@ 3% net) @ 30%	\$ <u>110,000</u>
Total for Stage 1 Work	\$474,000

* This does not allow for any possible landfill tipping fees.

Stage 2 Work

Mobilization, Demobilization and Miscellaneous	\$ 10,000
Empty and bypass cells 3 and 5	\$ 7,000
Remove Existing diffusers	\$ 4,000
Replace one aeration blower with new unit	\$ 32,000
Supply diffusers, piping and valves in cells 3 and 5	\$ 44,000
Install Diffusers, piping and valves in cells 3 and 5*	<u>\$ 20,000</u>
Sub-total	\$117,000
Engineering & Contingencies, GST (@ 3% net) @ 30%	<u>\$ 35,000</u>
Total for Stage 2 Work	\$152,000
Total for Alternative 3	\$626,000

5.2.4 Alternative 4 – Add fine bubble aeration in cells 1 & 2, and also convert cells 3 and 5 to fine bubble aeration.

This alternative is similar to alternative 3 in that fine bubble aeration is proposed for cells 3, and 5. However, this alternative also evaluates the effects of converting the existing anaerobic cell 1 and 2 to aerated cells using fine bubble aeration. The existing anaerobic Cells 1 and 2 provide only a small degree of treatment compared to the equal size of aerated lagoons. They also produce more odours compared to aerated cells. However, they provide an efficient means of settling out solids, which can conveniently occur in the small area that these cells occupy.

The work required for Alternative 4 is shown in Figure 5.

The following table 5.2.4.1 presents the results of a spreadsheet model of the lagoon system, assuming the anaerobic lagoons are converted to aerated cells, and assuming a reaction rate. The spreadsheet is presented in appendix E.

**Table 5.2.4.1 – Treatment Analysis
Theoretical Effluent Concentrations**

	PRESENT SEWERED POPULATION (3,870)		20 YEAR SEWERED POPULATION (5,000)	
	BOD ₅ Conc.(mg/L) [Winter, Average Daily Flow of 1285 m ³ /d]	BOD ₅ Conc. (mg/L) [Summer, Peak Month Flow of 2700 m ³ /d]	BOD ₅ Conc.(mg/L) [Winter, Average Daily Flow of 1800 m ³ /d]	BOD ₅ Conc. (mg/L) [Summer, Peak Month Flow of 3002500 m ³ /d]
Influent	250	130	230	140
Cell 1 Effluent	168	89	167	107
Cell 2 Effluent	116	66	124	81
Cell 3 Effluent	29	18	38	24
Cell 4 Effluent	4*	2*	6*	8*
Plant Effluent	2*	2*	4.5*	5*

* Although these results are predicted by the model, in reality effluent concentration lower than 10 mg/L will rarely be accomplished.

The model results indicate that the effluent quality from cell 3 would be of sufficient quality to meet permit requirements, and that it would not necessary to provide new aeration in cell 4. This would result in a capital cost savings compared to alternatives 1 and 3, as discussed later in this report.

It is prudent to base designs using field data rather than estimated actual plant operating data as each lagoon system has site specific operation capabilities. For this alternative it would be necessary to carry out a number of measurements of the influent and effluent quality from each lagoon cell, as well as the water temperature, over the course of a year, to determine how the lagoon system is actually performing.

If the data justified the use of a the assumed reaction rate, we ~~would recommend~~ providing aeration in cells 1 and 2, adding aeration in cell 3, and not doing any work to cells 4 and 5. The costs of this alternative are shown below:

Stage 1 Work

Mobilization, Demobilization and miscellaneous	\$ 15,000
Empty Cells 1 and 2 and remove sludge *	\$ 40,000
Supply & Install steel air header pipe for cells 1 and 2	\$ 45,000
Supply fine bubble diffusers, valves and in-tank piping	\$ 30,000
Install Diffusers and piping	\$ 20,000
Remove one existing blower and supply and install new blower	\$ <u>32,000</u>
Sub-total	\$182,000
Engineering & Contingencies, GST (@ 3% net) @ 30%	\$ <u>55,000</u>
Total for Stage 1 work	\$237,000

* This does not allow for any possible landfill tipping fees.

Stage 2 Work

Mobilization, Demobilization and Miscellaneous	\$ 10,000
Supply fine bubble diffusers, valves and in-tank piping	\$ 30,000
Empty cells 3 and 5 to install aeration system	\$ 7,000
Install diffusers and piping	\$ 20,000
Remove one existing blower and install new blower	\$ <u>32,000</u>
Sub-total	\$ 99,000
Engineering & Contingencies, GST (@ 3% net) @ 30%	\$ <u>30,000</u>
Total for Stage 2 Work	\$129,000
Total for Alternative 4	\$366,000

* This does not allow for any possible landfill tipping fees.

5.2.5 Comparison of Alternatives for Lagoon Upgrade

Summary costs for each alternative are shown in table 5.2.5.1 below.

Table 5.2.5.1 Summary of Costs for Aeration System Upgrade Alternatives

Treatment Alternative	Stage 1 costs (1999 dollars)	Stage 2 costs (1999 costs)	Total Costs (1999 dollars)
Alt. 1 - Coarse Bubble	\$478,500	\$166,500	\$645,000
Alt. 3 - Fine Bubble in cells 3, 4, and 5	\$474,000	\$152,000	\$626,000
Alt. 4 - Fine bubble in cells 1,2, 3 and 5	\$237,000	\$129,000	\$366,000

Alternatives 1 and alternative 3 are very similar in overall cost, with fine bubble aeration estimated to be approximately \$20,000 lower in cost. This is mainly due to the fact that

the air requirements for fine bubble aeration are approximately half that of coarse bubble, and the overall scheme for the fine bubble system would require only two of the existing blowers to be replaced compared to three blowers for the coarse bubble alternative. Additionally, the fine bubble alternative offers an annual operational cost savings of approximately \$8,000 (present day) to \$13,000 (future) annual cost savings.

Both alternatives 1 and 3 are significantly higher in cost compared to alternative 4. Alternatives 1 and 3 involve the construction of an earthen berm in cell 4, and the addition of aeration in one of the newly created cells. There is a significant cost involved in, disposal of sludge present in this cell, emptying of cell 4 and berm construction. Additionally, a number of flow diversion structures and additional piping would be required for alternatives 1 and 3 in order to sub-divide cell 4, to provide flow dimension capability around this cell.

Alternative 4 is approximately \$260,000 less than alternative 3, or approximately \$280,000 less than alternative 1. This is primarily due to not requiring any work to occur in cell 4 - eliminating the previously mentioned costs associated with converting this cell. Alternative 4 involves aeration in cells 1 and 2. This can be accomplished at a much reduced cost than providing a berm in cell 4 and aeration in a sub-divided cell.

It is important that if alternative 4 is considered favorable, that a study be done to determine whether the lagoon treatment efficiency is as assumed, and therefore whether the lagoon assessment used in alternative 4 is realistic. This study would involve sampling of several lagoon parameters intermittently for the duration of one year. The sampling could be done by District staff, whereas the study should be carried out by a qualified consulting engineering firm.

The sampling program would cost approximately \$15,000 for lab analyses, in addition to the time required by District staff for sampling. The associated study is estimated to cost up to approximately \$10,000.

In summary, Alternative 4 could provide a saving of approximately \$260,000 to \$280,000 compared to the other alternatives considered. To confirm the assumptions made for Alternative 4 some supplementary studies are required costing an estimated \$15,000 for laboratory analyses and \$10,000 for engineering fees.

5.3 Septage Receiving Station

The District also wishes to consider options for septage disposal. The options for handling of septage include land application, co-treatment with wastewater, co-disposal with solid wastes, and processing at dedicated septage treatment facilities. In cases where capacity limitations do not exist at the wastewater treatment facility, co-treatment and disposal of septage with wastewater is one of the most cost-effective and environmentally sound methods available (Metcalf and Eddy, 1991).

The conditions present at Fort St. James favours the use of co-treatment of septage with the wastewater in the lagoon treatment facility. The overall contribution to the plant from septage is reasonably small compared to the normal wastewater flow, and the lagoon system is of sufficiently large capacity to handle the contribution from septage.

Presently, septage is received from one hauler, who discharges the septage into one of the influent manholes upstream of the lagoon facility. This practice results in a temporary reduction in lagoon performance, and a temporary increase in odours. The septage (which is of high biological strength) is discharged very rapidly into the lagoons, causing a sudden increase to the BOD5 loading to the plant. This results in a rapid increase in the oxygen demand in the lagoons. For a limited time, the aeration system temporarily is not able to provide sufficient aeration, and effluent quality deteriorates, until a sufficient quantity of the BOD5 contribution from septage is degraded. The septage, which is an odorous substance, releases odours when rapidly discharged to the lagoon system.

The current septage discharge practice can be improved by the construction of a septage holding tank. This tank would be of sufficient capacity to hold a one to two day volume of septage. The septage that would be discharged into this tank would be gradually fed into the first treatment cell, by using a small feed pump operated on a timed cycle. The septage, which is otherwise discharged into the lagoon in a matter of minutes, can be released over a period of a number of hours. This will improve the performance of the lagoons throughout the entire day. Odours would also be reduced by the slow release of septage into the system.

A septage receiving tank would provide the added function of preventing the entry of rocks and other debris in the septage from entering the lagoons. Any rocks discharged to the septage tank would settle out in this tank, and would be removed periodically.

We recommend the construction of a concrete septage holding tank of approximately 14 m³ capacity (1.5 truckloads). The tank should be covered to reduce odour release, and provided with a hatch for septage discharge and for man-entry. The tank should be provided with a small discharge pump which will run on a timed cycle, discharging into the first treatment cell. The tank should also be provided with a gravity overflow pipe, which would permit gravity flow into the lagoon should the pump fail or be removed for servicing.

For most large septage receiving facilities, systems are put into place to control access to the tank and to record the name of the septage hauler and the quantity of septage discharged. However, for Fort St. James we do not recommend these measures as only one septage hauler is being used.

The estimated cost for a septage receiving facility located at the plant is as follows:

Septage receiving station c/w 14 m ³ holding tank	\$31,000
Connect to sewer system	\$ 3,500
Miscellaneous Appurtenances	<u>\$ 4,000</u>
Sub-Total	\$38,500
Engineering & contingencies, GST (@3% net) @ 30%	<u>\$11,500</u>
TOTAL	\$50,000

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I.**

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Influent Works

We do not recommend any upgrade be done to the influent works at this time.

6.2 Sewage Collection System

The maximum day flow of up to 2.5 times the average day flow for current plant operation (1977 data) indicates that the sewage collection system is subject to significant infiltration and inflow during wet weather. The District should begin investigations to identify problem areas in the collection system, so that wet weather flows can be reduced, to prevent hydraulically overloading the plant beyond its permit capacity of 3200 m³/d.

6.3 Lagoons

We recommend that the District look towards converting the lagoon system from a coarse bubble aeration system to a fine bubble aeration system. The capital costs of upgrading the lagoon system with a fine bubble system are comparative to upgrading using a coarse bubble system. However, the fine bubble system offers significant energy savings.

We recommend the District proceed to the next stage of this study, which should include the sampling program (\$15,000) and associated study (\$10,000), as previously described. This would determine whether Alternative 4 is feasible, in which case we would recommend Alternative 4 be adopted, at a total estimated cost of \$366,000. Alternatively, the next least cost option is Alternative 3 for an estimated cost of \$626,000.

6.4 Septage Receiving Station

The septage facility should be constructed at the influent manhole immediately above the headworks at an estimated project cost of \$50,000.

6.5 Measurements and Analyses

We recommend the District continues to monitor plant effluent parameters (BOD₅, TSS and coliforms) on a regular basis. As effluent concentrations approach permit values, the District should consider the need for plant upgrade in the near future. Sludge levels in cell 4 should be monitored on an annual to bi-annual basis, to determine the need to remove sludge from this cell.

6.6 Summary of Report Findings

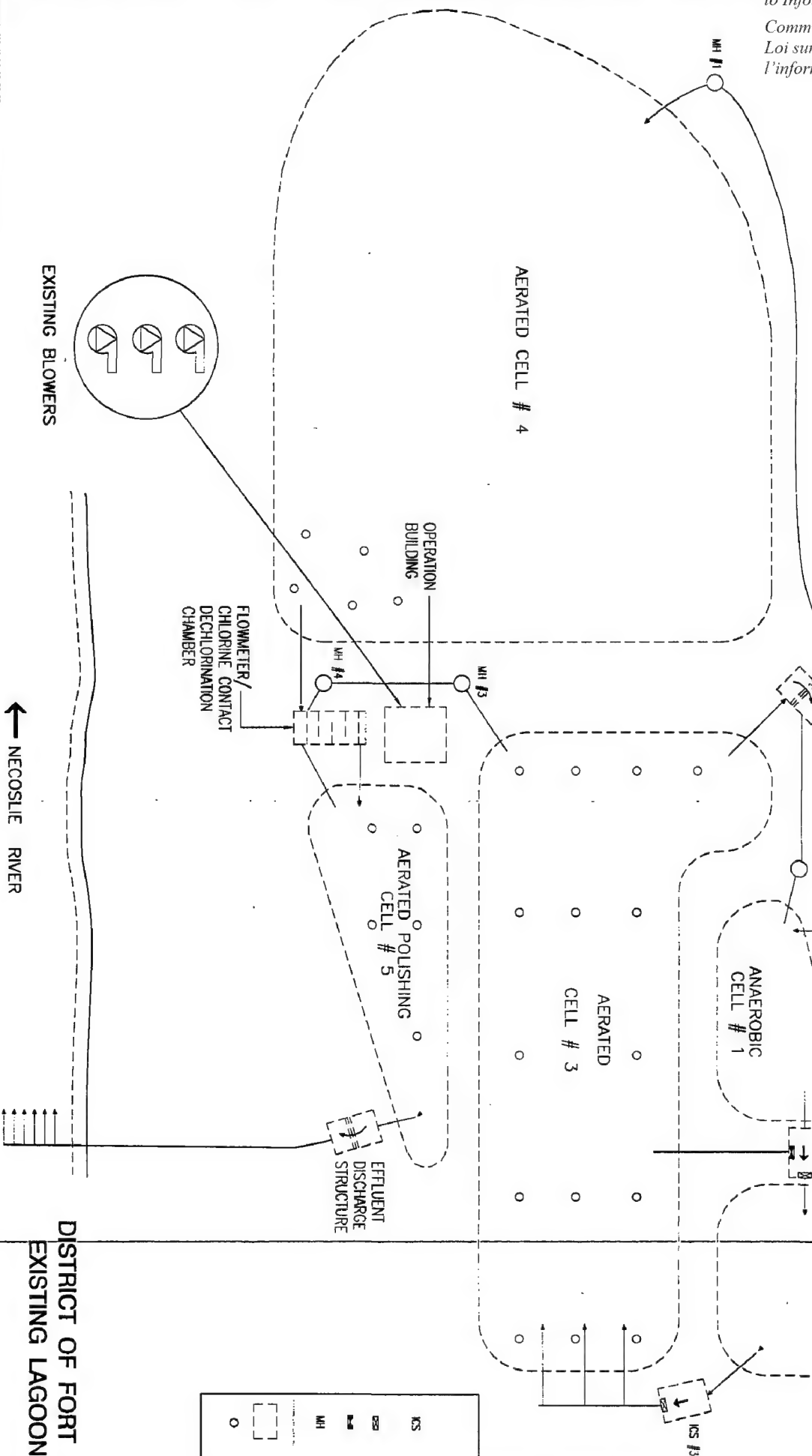
Table 6.5 below summarizes the report findings.

Table 6.5
Summary of Report Findings

Item No.	Parameter/Treatment Component	Current Acceptable Under Present Conditions?	Acceptable for Future Conditions?	Need for Upgrade to Rectify Condition?	Recommended Measure
1.	Effluent BOD ₅ Concentration	Yes	No	Yes	Upgrade aeration system. See item 7.
2.	Effluent TSS concentration	Yes	Yes	No	None
3.	Effluent Coliform	Yes	No	Yes	See Item 9
4.	Infiltration and Inflow problems	No	No	Yes	Evaluate and repair sewer systems (detailed recommendation beyond scope of this report).
5.	Influent works	Yes	Yes	No	None
6.	Septage Handling	Marginally Acceptable	No	Yes	Install septage holding tank
7.	In-tank aeration diffusers and piping	Yes	No	Yes	Upgrade per alternative 4 – fine bubble aeration.
8.	Aeration blowers	Marginally Acceptable	No	Yes	Replace blowers individually
9.	Chlorine Contact Tank	No	No	Yes	Increase capacity of existing tankage.
10.	Sludge Removal	Yes	No	Yes	None required for short to medium term – required in long term.

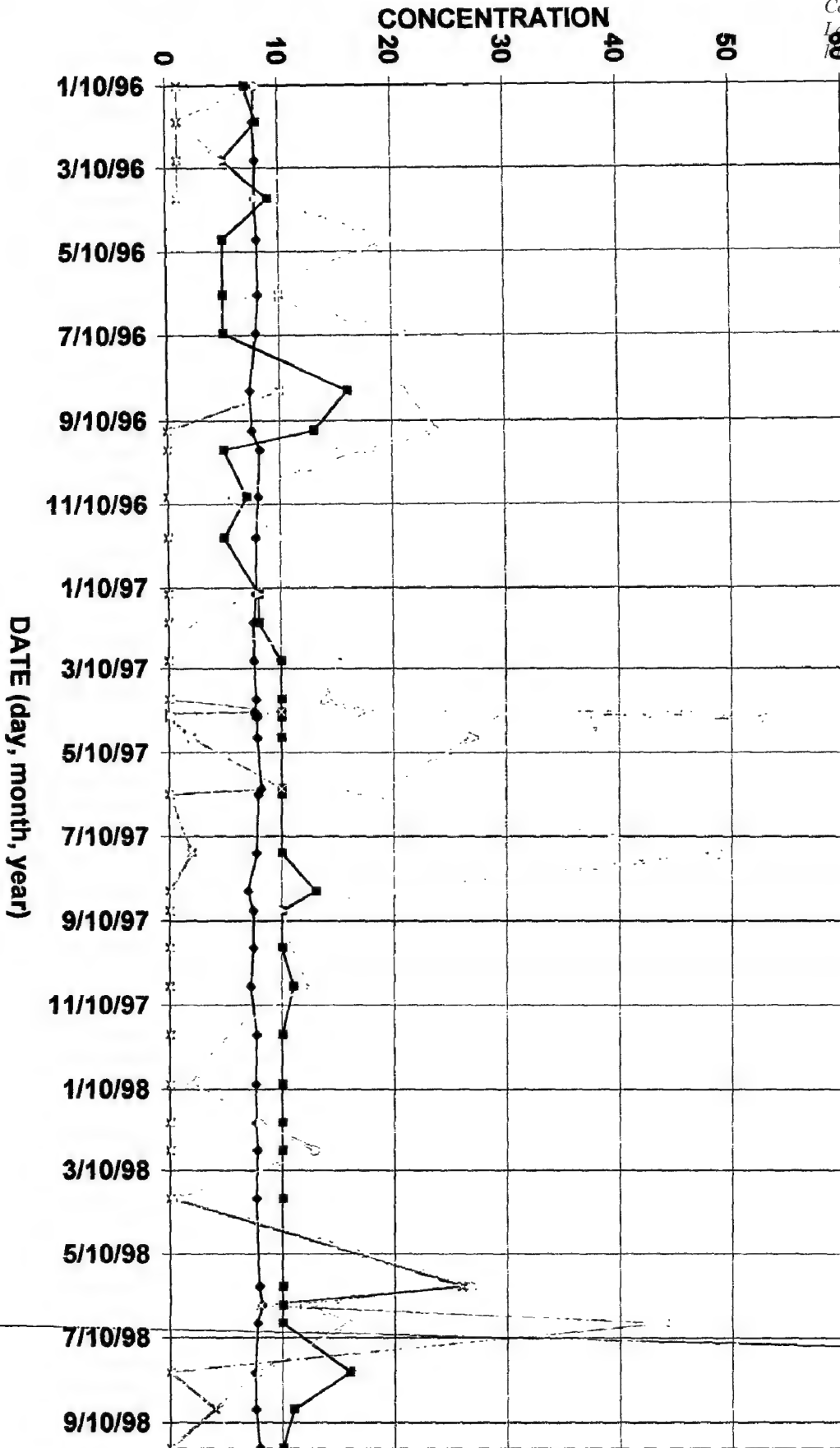
**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

FIGURES

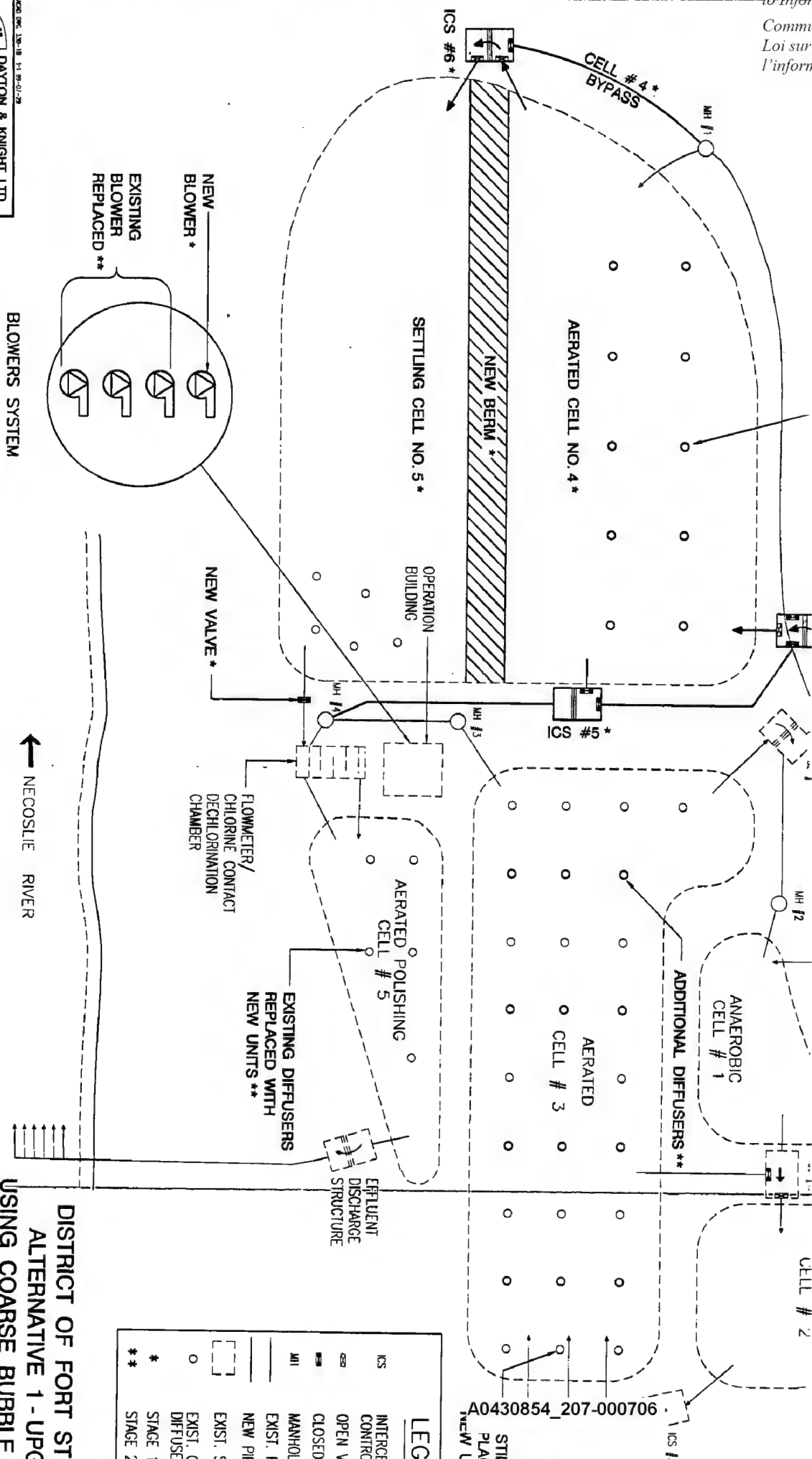


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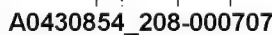
DISTRICT OF FORT ST. JAMES
EXISTING LAGOON SYSTEM



—●— pH
 —■— B.O.
 - - - x - - - TSS (mg/L)
 * * * * * Fecal Coll



DISTRICT OF FORT ST.
ALTERNATIVE 1 - UPG
USING COARSE BUBBLE

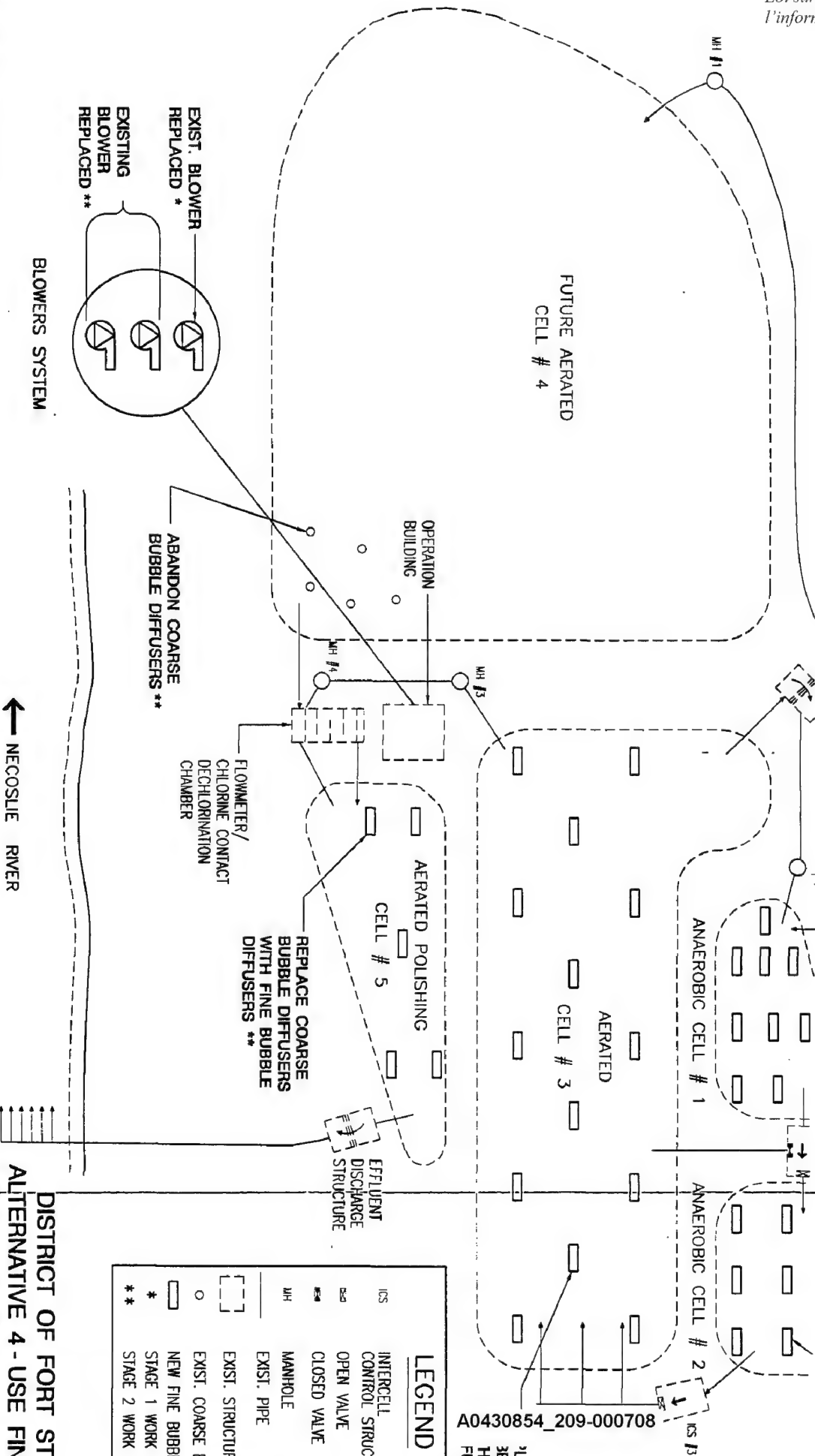


EPFL
UBER
WITH
IFFL

LEGEND

ICS	INTERCELL
CSO	CONTROL STRUCT
CV	OPEN VALVE
CV	CLOSED VALVE
MAN	MANHOLE
PIPE	EXIST. PIPE
PIPE	NEW PIPE/STRUCT
STRUCT	EXIST. STRUCTURE
COARSE	EXIST. COARSE E
BUBBL	NEW FINE BUBBL
STAGE 1	STAGE 1 WORK
STAGE 2	STAGE 2 WORK

DISTRICT OF FORT ST ALTERNATIVE 3 - UPG USING FINE BUBBLE A



LEGEND	
ICS	INTERCELL CONTROL STRUCTURE
OV	OPEN VALVE
CV	CLOSED VALVE
MH	MANHOLE
—	EXIST. PIPE
[]	EXIST. STRUCTURES
○	EXIST. COARSE BUBBLE DIFFUSERS
□	NEW FINE BUBBLE DIFFUSERS
*	STAGE 1 WORK
**	STAGE 2 WORK

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1/2
3/4
1/4
FUS

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

APPENDICES

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

APPENDIX A

Operations and Maintenance Manual

VILLAGE OF FORT ST. JAMES
SEWAGE TREATMENT PLANT
OPERATION AND MAINTENANCE MANUAL

FEBRUARY, 1985

AL's Copy

VILLAGE OF FORT ST. JAMES
SEWAGE TREATMENT PLANT
OPERATION AND MAINTENANCE MANUAL

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INTRODUCTION

SECTION 1

1.1 SEWAGE EFFLUENT QUALITY REQUIREMENTS

The Waste Management Branch of the Ministry of the Environment issued the amended Permit No. PE-239 on April 26, 1983. The permit states that effective October 1, 1984 the effluent quality shall be equivalent to or better than:

	<u>From May 1 to July 31</u>	<u>From August 1 to April 30</u>
5 day Biochemical Oxygen Demand	45mg/l	30mg/l
Total Suspended Solids	60mg/l	40mg/l
Fecal Coliforms	1000MPN/100ml	1000MPN/100ml

Effective October 1, 1989 the effluent quality shall be equivalent to or better than:

	<u>From May 1 to July 31</u>	<u>From August 1 to April 30</u>
5 day Biochemical Oxygen Demand	30mg/l	30mg/l
Total Suspended Solids	40mg/l	30mg/l
Fecal Coliforms	1000MPN/100ml	1000MPN/100ml

The quantity of effluent permitted for discharge in the Necoslie River is 3,200 cu. meters/day which, based on 0.364 cu. meters/capita/day (80 gallons/capita/day), is equivalent to a population of 8,800.

220⁵ GAL = 1 m³

1.2 DESIGN POPULATION AND FLOWS

The design population for the upgraded sewage treatment lagoons is 5,000. This population is equivalent to a design flow of approximately 1,820 cu. meters/day (400,000^lgpd) based on a per capita flow of 0.364 cu. meters/day (80 gallons/day).

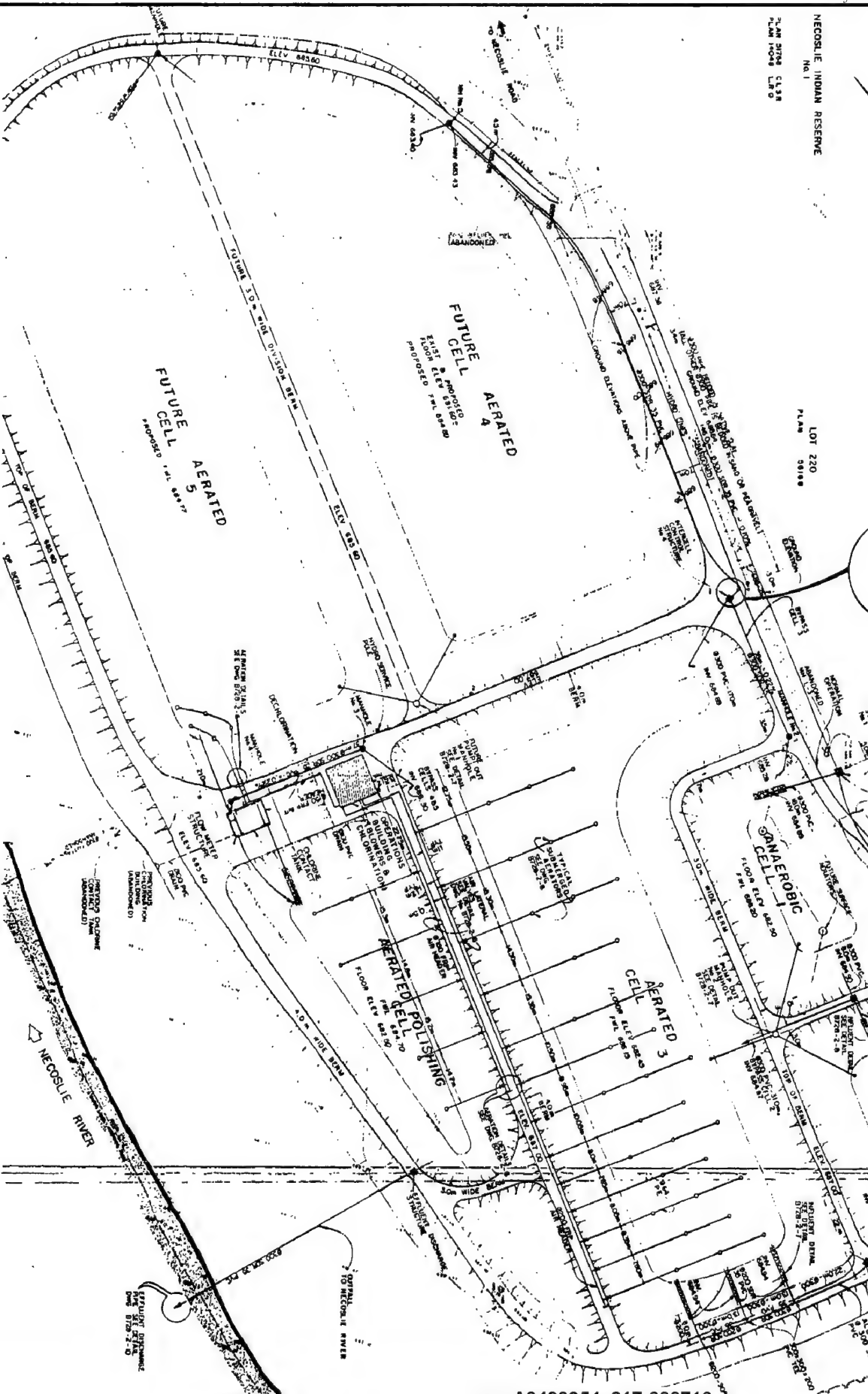
The per capita sewage flow is estimated to be 0.364 cu. meters/day (80 gallons/day). The actual per capita sewage flow can be determined from the flowmeter readings that are recorded on the monthly strip chart recorder located in the operations building. (See Section 4.2 for information on the flowmeter and recorder.)

Some provisions have been made in the 1984 sewage lagoon upgrading work to accommodate a population of up to 10,000 people. These provisions deal with the sizing of the lagoons, the sizing of the blowers and the pipe sizing throughout the system. Details of the provisions will be outlined in the appropriate section.

1.3 DESCRIPTION OF THE SEWAGE TREATMENT SYSTEM

The treatment system is a combination of anaerobic and aerobic treatment. There are five cells involved in the system. A plan of the treatment system is shown on Figure 1. Cell 1 and Cell 2 are anaerobic cells each having a retention time of 2 days at the 1,820 cu. meter/day design flow. Cell 3 is an aerobic cell having a retention time of 15 days. Cell 4 (formerly Cell 2) is used strictly as an effluent polishing cell prior to chlorination-dechlorination. Cell 5 is an aerated effluent polishing cell prior to discharge to the Necoslie River. Cell 5 retention time is 3.5 days at 1,820 cu. meter/day.

The effluent from Cell 4 is chlorinated then dechlorinated prior to discharge into the aerated polishing cell, Cell 5. The chlorination/dechlorination structure located between Cells 4 and 5 consists of a chlorine contact tank, a dechlorination contact tank and also a flowmeter equipped with a remote chart recorder located in the operations building.



NECOSLIE INDIAN RESERVE
No. 1
PLAN 2174 C.A.B.
PLAN 1004 L.M.B.

LOT 220
PLAN 59198

1.3 Description of the Sewage Treatment System (cont'd)

The operations building houses the air blowers for the aeration system, the chlorination equipment and the dechlorination equipment. The building also includes a small office or lab for the operator to conduct tests and record flow and effluent quality readings.

SEWAGE TREATMENT SYSTEM COMPONENTS

SECTION 2

2.1 TREATMENT CELLS

2.1.1 Anaerobic Cells 1 and 2

Each of the anaerobic cells have a design liquid volume of 3,640 cu.m which represents a retention time of 2 days at the design flow of 1,820 cu.m/day. The design liquid depth is 3.65m (12 feet) and the side slopes are 3:1.

The anticipated treatment capability is 35% BOD removal in the winter and 50% BOD removal in the summer. Each cell is sized for an organic loading equivalent to a population of 5,000 and at the present time the intent is to operate the cells in series.

When the contributing population exceeds 5,000 people, the cell operation should be split to a parallel operation. This type of operation will handle a population of up to 10,000 people.

To permit future cleaning of accumulated sludge from either of the anaerobic cells a manhole with piping into each cell is provided for a drainage pump. This pump out manhole can also be used to pump out Cell 3 if necessary.

2.1.2 Aerated Cell 3

Cell 3 has an operating liquid volume of approximately 27,300 cu.m which represents a retention time of 15 days. The design liquid depth is 3.65m (12 feet) and the side slopes are 3:1.

2.1.2 Aerated Cell 3 (cont'd)

The anticipated treatment capability is 72% removal of the influent BOD in the winter and 84% removal of the influent BOD in the summer.

The aeration system consists of 34 submerged coarse bubble aerators supplied by 65mm diameter lateral piping and a 200mm diameter FRP air header extending from the operations building. The aeration system is designed to supply 2.25 kg O₂ per kg of BOD removed through the winter and summer.

2.1.3 Cell 4 (Formerly Cell 2)

The liquid volume of Cell 4 is approximately 69,000 cu.m which represents a retention time of approximately 38 days at the design flow of 1,820 cu.m/day. There was no upgrading work done within Cell 4, however the perimeter berms were raised to provide an operating liquid depth of 3.2m (10.5 feet).

This cell is used strictly as a polishing cell prior to chlorination. Aeration has been installed at the discharge end of Cell 4 to remove hydrogen sulfide (H₂S) which builds up during the winter. The aeration consists of 5 submerged coarse bubble aerators. If the H₂S is not removed the chlorine will react with H₂S thereby making it ineffective in killing coliform bacteria that may be present. As the H₂S is primarily present in the winter, the aerators need only be operated during the winter months.

The sludge accumulated in this cell when it was operated as a facultative cell (formerly Cell 2) has not been removed. The result may mean that for a period of the time the sludge may add to the overall BOD load. This will continue until the accumulated sludge is adequately digested.

2.1.3 Cell 4 (Formerly Cell 2) (cont'd)

As the population approaches 10,000 additional aerated cell capacity will be required. At that time Cell 4 should be cleaned to remove the existing sludge and a division berm should be placed in the north to south direction across the cell. The two new cells, Cell 4A and 4B, should be aerated thus increasing the treatment capacity of the system to 10,000 people and meeting the Waste Management Permit requirements of 85% BOD removal.

2.1.4 Flowmeter, Chlorination and Dechlorination Structure

The flowmeter chlorination and dechlorination structure is a cast-in-place concrete structure located between Cell 4 and Cell 5.

The discharge from Cell 4 initially goes through a 150mm diameter magnetic flowmeter. The flow is recorded on a strip chart recorder located in the office of the operations building.

Following the flowmeter the flow is dosed with a chlorine solution. A 60 minute chlorine contact time (based on the design flow of 1,820 cu.m/day,) is provided by a plywood baffled chamber following the chlorine diffuser.

Dechlorination then follows the chlorine contact chamber. Sodium sulfate solution is used for dechlorination and is added to the flow via a diffuser similar to the chlorine solution diffuser. Both the chlorine solution and the sodium sulfate solution are piped from the operations building.

The flowmeter, chlorination and dechlorination structure discharges into the aerated polishing cell labelled Cell 5. Valving within the structure is set up so that either the flowmeter or the chlorination system can be bypassed if problems occur.

2.1.5 Aerated Polishing Cell 5

The aerated polishing cell has a design liquid volume of 6,200 cu.m which represents retention time of 3.4 days at the design flow of 1,820 cu. m/day. The design liquid depth is 2.2m (7.2 feet) and the side slopes are 3:1.

The aerated polishing cell is the final treatment component prior to discharge to the Necoslie River. This cell serves several functions all of which can be deemed as safety factors in the overall process. The cell will remove hydrogen sulphide if any still exists, it will reduce chlorine residuals if the dechlorination system is inoperable or inadequate and the polishing cell will provide additional BOD and suspended solids removal in the event of malfunction or bypass of the treatment cells.

The aeration is provided by 7 submerged coarse bubble aerators supplied by 65mm diameter lateral piping and a 150mm diameter FRP air header extending from the building. Due to the shallow depth of this cell relative to Cell 3, the polishing cell air supply has been pressure reduced at the operations building.

2.1.6 Intercell Control Structures

There are four cast-in-place concrete intercell control structures located throughout the treatment cells. Each structure contains a valve(s) or a stop log weir assembly which is used for controlling the operation of the cells. The cells are all interconnected by 300mm diameter PVC intercell piping.

2.1.6 Intercell Control Structures (cont'd)

The control valves in the structures are square nut operated valves. With the exception of intercell control structure No. 1 all of the submerged valves, including those in the chlorination-dechlorination structure, are eccentrically operated butterfly valves. The valve in intercell control structure No. 1 is a centerline operated gate valve. The valves can be operated using standard valve keys.

Intercell control structure No. 4 and the effluent discharge structure contain a stop log weir assembly. The stop logs are 100mm by 150mm tongue and groove cedar logs. Each log is equipped with a pair of stainless steel handles for removal or replacement. The number of logs in place or the top elevation of the weir control the liquid level in the treatment cells and can control the operation of the treatment cells.

The weir in intercell control structure No. 4 controls the liquid level of Cells 1, 2 and 3 and the weir in the effluent discharge structure controls the level in Cell 4, the chlorination-dechlorination structure and the aerated polishing cell.

By adjusting the weir and/or closing or opening the control valves the operation of the cells can be changed in that individual cells can be bypassed.

2.1.7 Operation of the Treatment Cells

As mentioned previously, the operation of the treatment cells can be controlled by adjusting the stop log weir assemblies in intercell control structure No. 4 or the effluent discharge structure and by opening or closing the intercell control structure valves.

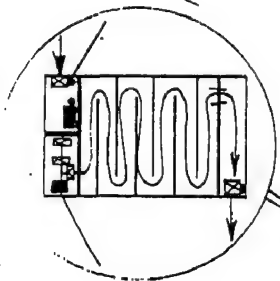
On the following Figures No. 2 to No. 7, the various modes of operation are shown schematically.



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LEGEND
ICS - (INTERCELL CONTROL
STRUCTURE)
MH - (MANHOLE)
- CLOSED VALVE

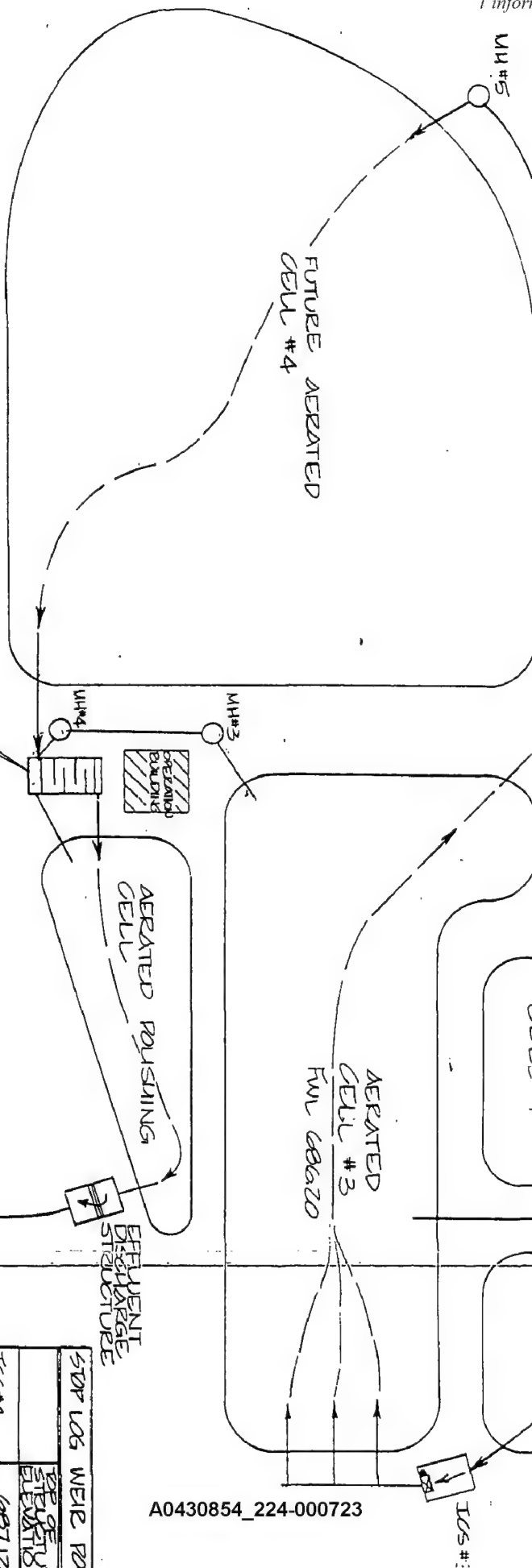
FLOWMETER/
CALORINE CONTACT/
DECHLORINATION
CHAMBER



NECOSLIE RIVER



STOP LOG WEIR PO	
ICS #4	DATE OF ELEVATION
EFFLUENT DISCHARGE STRUCTURE	687.12
	685.0

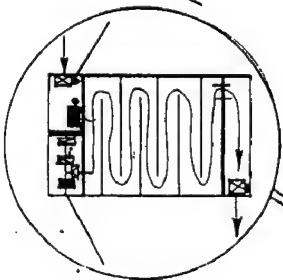


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BYPASS

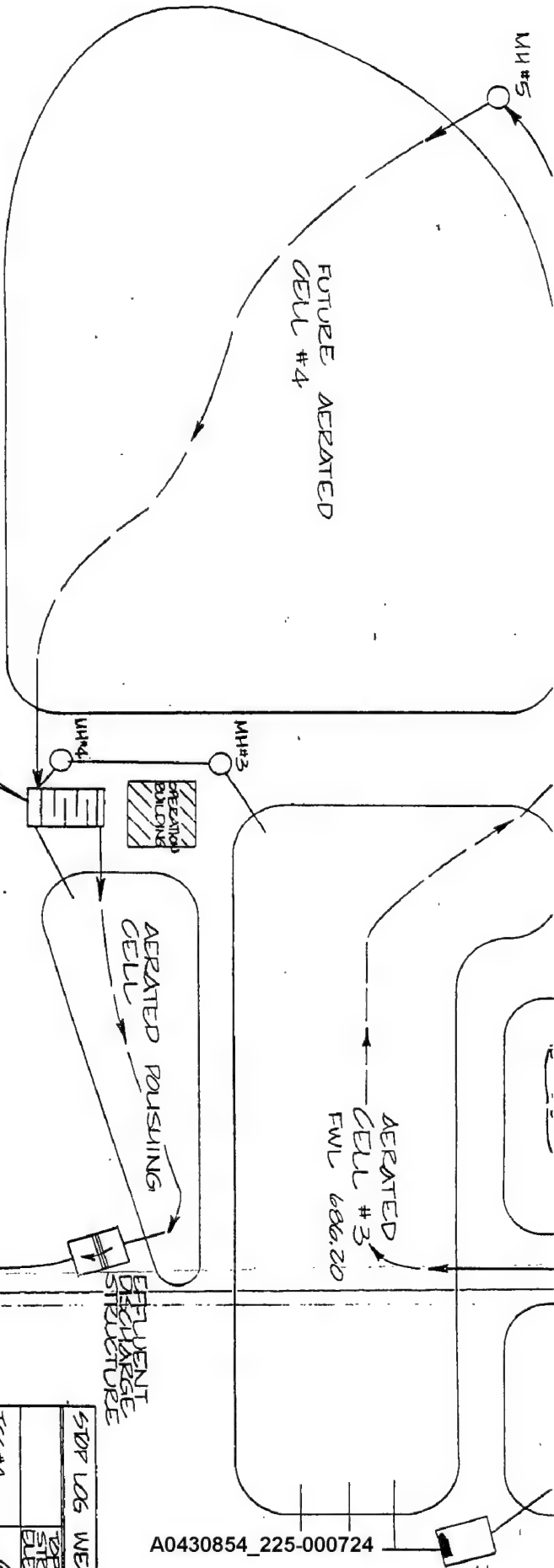
LEGEND
 ICS - (INTERCELL CONTROL STRUCTURES)
 MH - (MANHOLE)
 - CLOSED VALVE

FLOWMETER/
 CHLORINE CONTACT/
 DECHLORINATION
 CHAMBER



NECOSUE RIVER

SDR LOG WEIR	TOP OF STREET ELEVATION
ICS #4	687
EFFLUENT DISCHARGE STRUCTURE	685

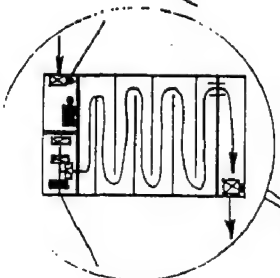


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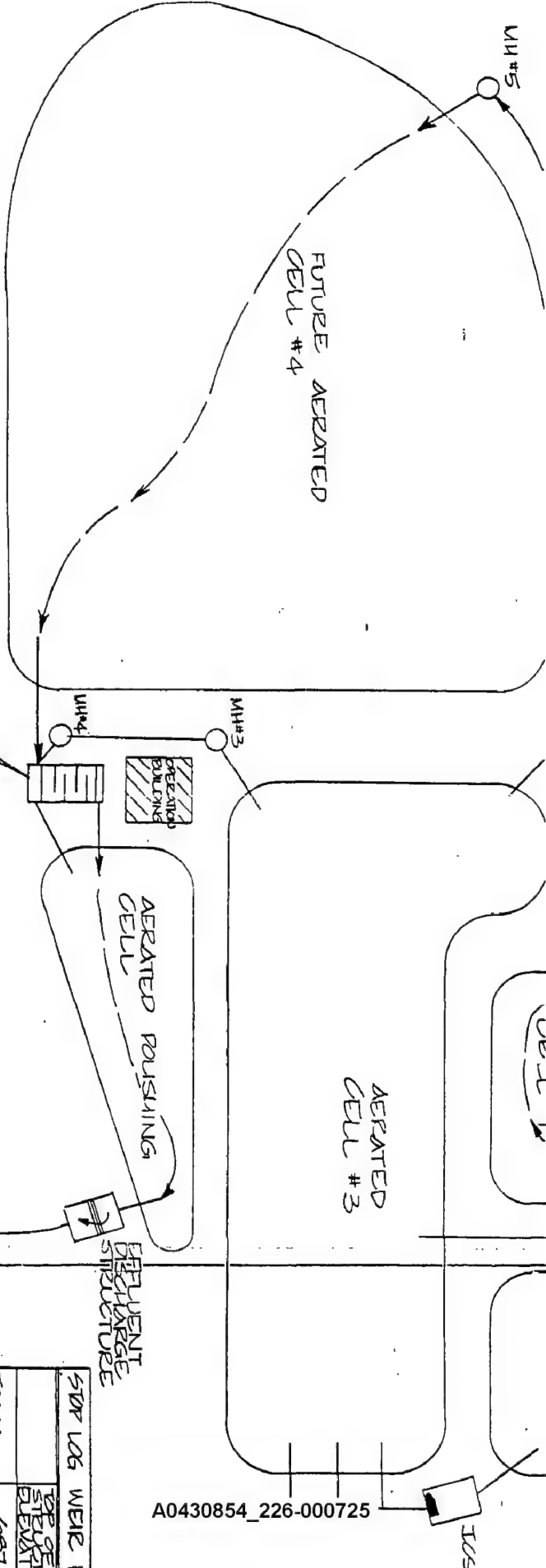
BYPASS

LEGEND
ICS - (INTERCELL CONTROL
STRUCTURE)
MH - (MANHOLE)
- CLOSED VALVE

FLOWMETER/
CHLORINE CONTACT/
DECHLORINATION
CHAMBER

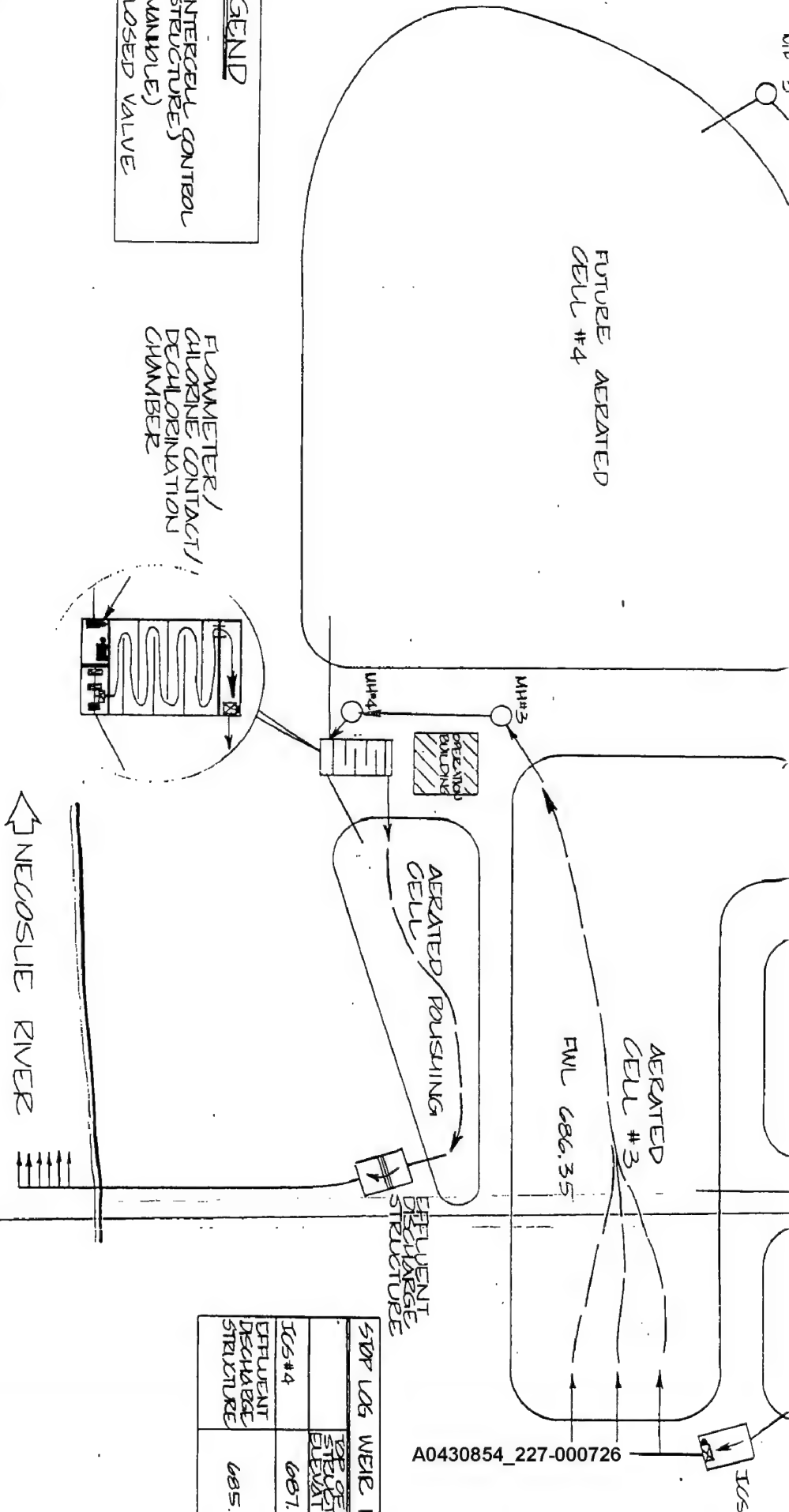


NECOSLIE RIVER



STOP LOG WEIR	TOP OF STRUCTURE ELEVATION	DATE
ICS #4	607.	
REFLUENT DECHARGE STRUCTURE	685.	

MODE OF
BYPASS



STOP LOG WEIR	TOP OF STRUCTURE ELEVATION	6687.1	6685.1
IC05#4			
EFFLUENT DISCHARGE STRUCTURE			

A0430854_227-000726

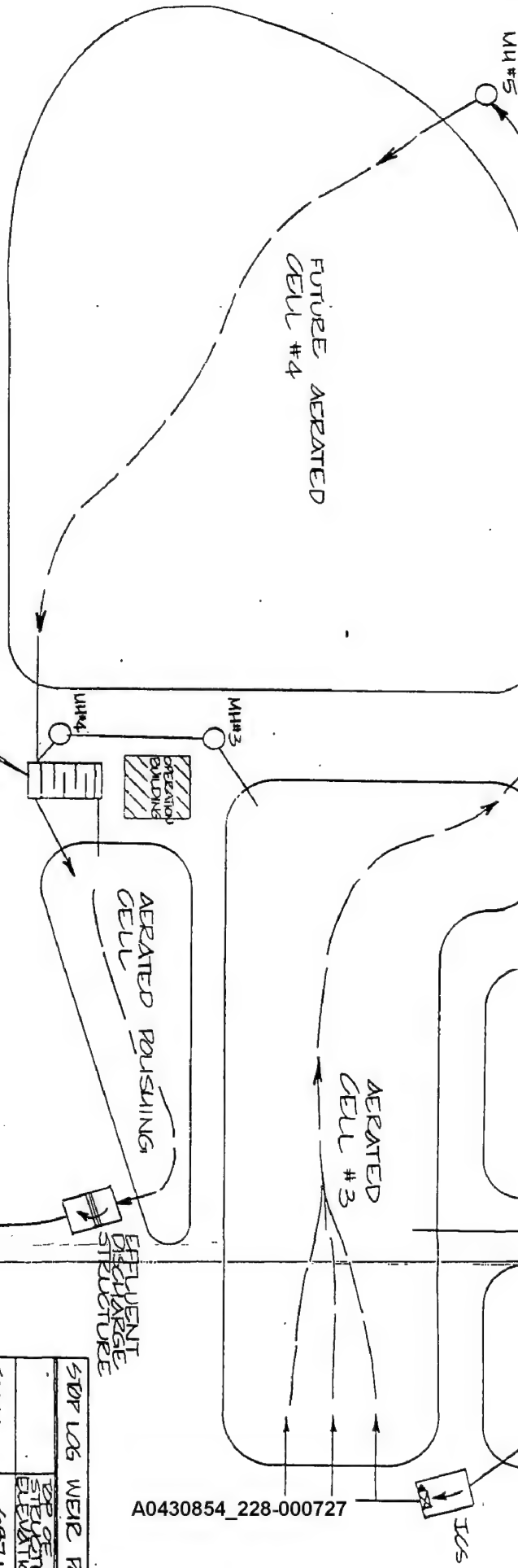
MODE OF OF
BYPASS CEL

LEGEND
ICS - (INTERCELL CONTROL
STRUCTURE)
MH - (MANHOLE)
- CLOSED VALVE

FLOWMETER/
CHLORINE CONTACT/
DECHLORINATION
CHAMBER

NECOSUE RIVER

STOP LOG WEIR R	OF OF
ICS #4	687.1
EFFLUENT DISCHARGE STRUCTURE	685.4



MODE OF OPE
BYPASS CHLOE

2.2 OPERATION BUILDING

2.2.1 Aeration System

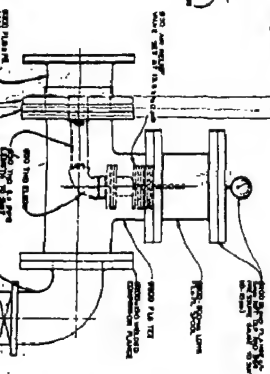
The air required in Cell 3, Cell 4 and the aerated polishing cell is supplied by the air blowers located in the operations building as shown on Figure 8 and Figure 9.

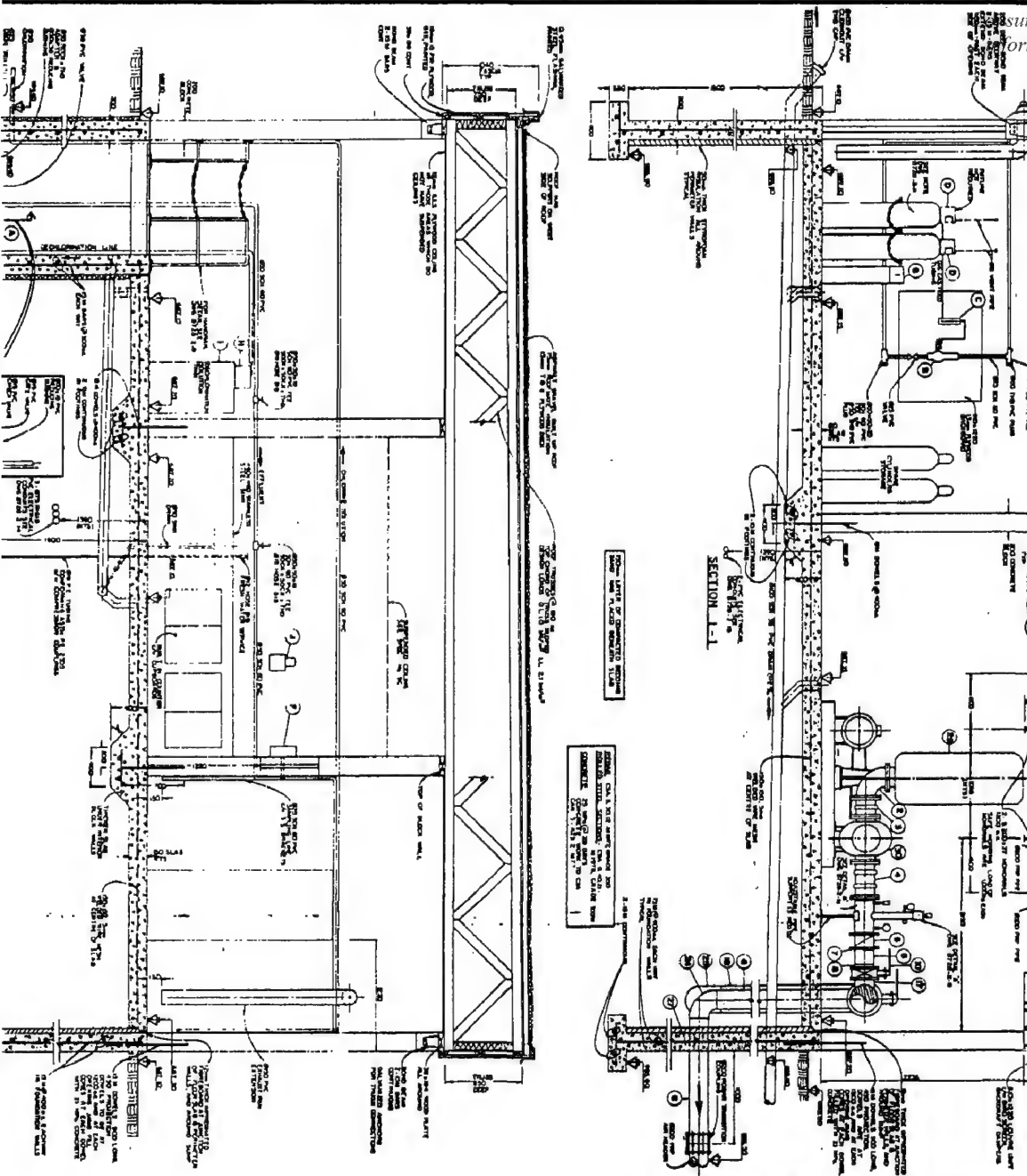
There are three blowers installed at this time with provisional space in the motor control center and floor area for two additional blowers. The existing blower capacity is suitable for the design population of 5,000 with 100% standby and with an additional two blowers the capacity will be sufficient for a population of 10,000. At that time, the additional air will be utilized in Cells 4A and 4B as discussed in Section 2.1.3.

The three blowers presently installed are Schwitzer Duroflow Blowers model 7009B. Two of the blowers are operated by 19 kw (25 Hp) motors and one is operated by a 37 kw (50 Hp) motor. The blowers are identical therefore allowing the 19 kw (25 Hp) motors to be upgraded to 37 kw (50 Hp) motors if desired in the future. Maintenance information on the blowers is located in Section 4 of this manual.

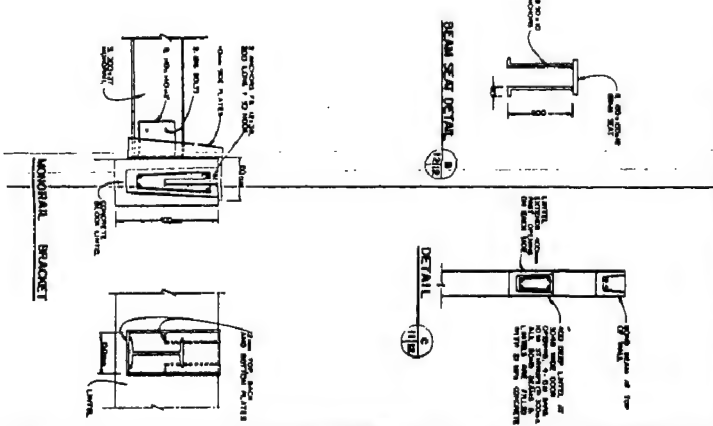
For population levels up to 5,000 only one of the 19 kw (25 Hp) blowers will be required to operate during the winter and the two 19 kw (25 Hp) blowers or the single 37 kw (50 Hp) blower will be required during the summer.

The blower intake and discharge piping is shown on Figure 9. A single intake louver is provided for the three blowers. This louver is equipped with one removable 610mm x 1,220mm x 37mm (2 ft. x 4 ft. x 1½ in.) filter which should be examined periodically and replaced when clogged. Following the intake louver and prior to the intake of the blowers there are three intake silencers. There is no maintenance required on the silencers.





OIL OR NATURAL GAS INFORMATION		EQUIPMENT	
ITEM NO.	DESCRIPTION	MANUFACTURER/TYPE/NO.	DATE
1	STEEL TANK	STEEL TANK	1964
2	STEEL TANK	STEEL TANK	1964
3	STEEL TANK	STEEL TANK	1964
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2.2.1 Aeration System (cont'd)

Each blower discharge is equipped with a temperature gauge and switch plus a pressure relief valve. If the discharge air temperature exceeds the recommended maximum temperature for the blower the unit should shut down. Such a problem, although not common, may occur if the intake louver or filter become blocked or excessively clogged. The pressure relief valve is also a safety feature to protect the blowers. If the pressure at the discharge become excessively high due to a blocked or valved off air line, the pressure relief valve will release the excessive pressure thus preventing damage to the blower and motor.

The main aeration discharge header located along the south wall of the operation building, as shown on Figure 8, is valved throughout its length to provide flexibility. From this header there are four exterior air headers which branch off to supply air to the four treatment cells outlined in Section 2.1. The 300mm diameter pipe which is capped just beyond the east wall of the operations building is intended to be the future air header for Cells 4A and 4B. The 200mm diameter pipe exiting the building at the south wall is the air header which provides the air for Cell 3, the main treatment cell. Further down the south wall is a 150mm diameter pipe which provides air to the discharge end of Cell 4 and also a 150mm diameter pipe which provides air to the aerated polishing cell.

The aerated polishing cell is 1.4 meters (4.5 ft.) shallower than Cells 3 and 4, therefore the polishing cell aeration pressure must be reduced. In order to reduce the pressure a pressure reducing device has been incorporated into the aeration line. This device is composed of a 50mm diameter pressure relief valve enclosed within a 200mm diameter tee. Under normal operating levels the pressure relief valve should be set at 13.8 kPa (2 psi) which represents approximately 1.4m (4.5 ft.) of static head.

2.2.2 Chlorination System

In accordance with the Waste Management Branch discharge permit, the sewage effluent must be chlorinated. The purpose of the chlorination is to kill any harmful pathogenic bacteria that may be present in the sewage effluent. The chlorination system is installed in a separate room within the operations building complete with an exterior emergency exit. The room is equipped with a chlorine gas detector and an automatically operated exhaust fan to provide protection in the event of a chlorine gas leak. The fan is also operated by the light switch and the opening of either of the two doors.

The chlorination equipment, as shown on Figure 9, was transferred from the old building. The chlorinator, rotometer, and chlorine ejector are Fischer Porter Model 70C1721.

The chlorine is stored in 45 kg (100 lb) cylinders. The cylinder in operation is kept on a scale to determine its weight during use and to determine when it is empty.

The system requires a liquid flow through the ejector to operate. Since water is unavailable, sewage effluent is pumped from just ahead of the chlorination contact tank through the ejector creating a vacuum which draws chlorine gas from the cylinder. The amount of chlorine is controlled by the rotometer mounted on the cylinder. The chlorine solution is then piped to the head of the chlorine contact tank. The required residual chlorine concentration after the 60 minute contact time is 0.5 mg/l to 2.0 mg/l. The chlorine dosage should be controlled to obtain this concentration.

The pump used to operate the chlorination system was transferred from the old building. It is a Myers Ejecto Pump Model HJ 50S. It is now located in a sump in the operations building at an elevation of 684.40 meters. The intake in the chlorination structure is at an elevation of 684.00 meters. In order to operate the pump and hence the chlorination system the liquid level in the chlorination structure therefore must be at least 0.40m above the intake.

2.2.3 Dechlorination System

Dechlorination of the sewage effluent is a requirement of the federal and provincial fisheries ministries as chlorine is harmful to fish.

It is believed that some dechlorination will be achieved through the aerated polishing cell and perhaps at the present flows the complete removal of chlorine will be achieved in this cell. In the event that the polishing cell does not fully dechlorinate the effluent, chemical dechlorination facilities have been installed.

The chemical dechlorination facilities consists of a chemical solution tank complete with manual mixer and a chemical metering pump. The chemical metering pump is a Prominent Model A1201 pulsating pump which discharges into a 25mm pipe terminating at a diffuser at the head of the dechlorination tank. The dechlorination tank follows the chlorination contact tank and discharges to the aerated polishing cell.

The chemical solution which is proposed for dechlorination is a sodium sulfite solution. The ratio of sodium sulfite applied to chlorine removed is roughly 1.8 to 1.0. This means 1.8 mg sodium sulfite is required to remove 1.0 mg chlorine.

The chemical solution tank is 380 liters (85 gallons) in volume. If the concentration of chlorine to be chemically removed is 0.5 mg/l (assuming no removal in the polishing cell) and the flow is equivalent to the design flow of 1.8 MLD (400,000 GPD) the amount of chlorine is equal to 0.9 kg/day (2 lb/day). The amount of sodium sulfite required is therefore equal to $1.8 \times 0.9 \text{ kg/day} = 1.6 \text{ kg/day}$ (3.6 lb/day).

2.2.3 Dechlorination System (cont'd)

The concentration of the sodium sulfite solution to be mixed depends on the length of time desired between refills of the solution tank. The dosage of the solution to the effluent can be easily adjusted on the chemical metering pump by changing the size and frequency of the pulse or stroke. Information on the adjustment of the pump can be found in Section 4.


Based on a weekly refill the amount of sodium sulfite solution is 380 liters divided by 7 days or 54 liters/day (12 gallons/day) and the amount of sodium sulfite is $1.6 \text{ kg/day} \times 7 \text{ days} = 11.2 \text{ kg}$ (25.2 lbs). The metering pump should be set to deliver 54 liters per day (12 gallons per day) or 2.25 liters per hour (0.5 gallons per hour).

Another chemical which could be used for dechlorination is sodium bisulfite. The ratio of sodium bisulfite added to chlorine removed is 1.46/l.

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

APPENDIX B

Waste Management Permit No. PE-00239



Province of
British Columbia

BC
Environment

MINISTRY OF
ENVIRONMENT,
LANDS AND PARKS

Released under the Access
to Information Act
1011 4th Avenue
Prince George, British Columbia
V2L 3H9
Telephone: (604) 565-6155
Fax: (604) 565-6629

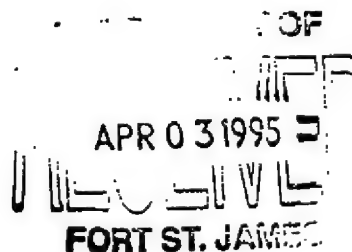
REGISTERED MAIL

Date: MAR 23 1995

File: PE-00239

District of Fort St. James
P.O. Box 640
Fort St. James, British Columbia
V0J 1P0

Attention: Mr. Lars Sabbe - Superintendent



Dear Permittee:

Enclosed is a copy of Permit No. PE-00239 issued under the provisions of the Waste Management Act. Your attention is respectfully directed to the terms and conditions outlined in the Permit.

This Permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority shall rest with the Permittee.

The Permittee shall ensure that any discharge under this Permit meets the requirements of other regulatory agencies including, but not restricted to, Environment Canada and the Department of Fisheries and Oceans (Canada).

An annual permit fee will be determined according to the Waste Management Permit Fees Regulation.

The administration of this Permit will be carried out by staff from our Regional Office located in Prince George, (telephone 565-6453). Plans, data and reports pertinent to the Permit are to be submitted to the Environmental Protection office, 3rd Floor, 1011 Fourth Avenue, Prince George, British Columbia, V2L 3H9



MINISTRY OF ENVIRONMENT,
LANDS AND PARKS

PERMIT
PE-0239

Under the Provisions of the Waste Management Act

District of Fort St. James

P.O. Box 640

Fort St. James, British Columbia

VOJ 1P0

is authorized to discharge effluent to the Necoslie River from a sewage treatment lagoon system located 0.6 km along the Necoslie Road on the south side of Fort St. James, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the Waste Management Act and may result in prosecution.

This permit revokes and replaces all previously issued permits under the number PE-0239 issued under Part 2, Section 8 of the Waste Management Act.

1. AUTHORIZED DISCHARGES

- 1.1 This subsection applies to the discharge of treated effluent from a series of treatment lagoons into the Necoslie River. The site reference number for this discharge is E104751.
- 1.1.1 The allowable authorized rate of raw sewage discharge to the treatment works is a maximum of 3200 m³ per day.
- 1.1.2 The characteristics of the discharge shall not exceed:
- | | |
|--------------------------------------|---------|
| a) 5- day Biochemical Oxygen Demand, | 30 mg/L |
| b) Total suspended Solids, | 30 Mg/L |
- 1.1.3 The authorized works are a control building, two anaerobic cells, mechanically aerated lagoon, stabilization/storage lagoon, chlorination chamber, an aerated dechlorination/polishing cell, a discharge structure to the Necoslie River and related appurtenances approximately located as shown on attached Site Plan A.

B.W. Medlar
Assistant Regional Waste Manager

Date issued: July 19, 1968

Date Amended:

(most recent)

Page: 1 of 5

MAR 29 1995

PERMIT : PE-0239

- 1.1.4 The location of the facilities from which the discharge originates is within the Necoslie Indian Reserve No. 1 approximately 300 metres northeast of the northwest corner of District Lot 1631, Range 5, Coast Land District.
- 1.1.5 The location of the point of discharge is located as above with the discharge entering the Necoslie River.

2. GENERAL REQUIREMENTS

2.1 Maintenance of Works and Emergency Procedures

The Permittee shall inspect the pollution control works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents continuing operation of the approved method of pollution control, the Permittee shall immediately notify the Regional Waste Manager and take appropriate remedial action.

2.2 Bypasses

The discharge of effluent which has bypassed the designated treatment works is prohibited unless the consent of the Regional Waste Manager is obtained and confirmed in writing.

2.3 Modification to Process and/or Authorized Works

The Permittee shall notify the Regional Waste Manager prior to implementing changes to any process and/or authorized works that may affect the quality and/or quantity of the discharge.

2.4 Upgrading of Authorized Works

The Regional Waste Manager may require upgrading of the authorized works if, based on data and information received, it becomes apparent that such improvements are necessary to protect the environment.

2.5 Chlorination

Maintain a chlorination residual prior to dechlorination between 0.5 and 1.0 mg/L at all times, or as otherwise ordered by the Regional Waste Manager, and provide not less than one hour of contact time at average flow rates.



B.W. Medlar
Assistant Regional Waste Manager

Date Issued: July 19, 1968

Date Amended:
(most recent)

MAR 29 1995

Page: 2 of 5

PERMIT : PE-0239

2.6 Dechlorination

The effluent shall be dechlorinated prior to discharge to the Necoslie River to reduce the chlorine to below the detectable limits.

2.7 Lagoon Freeboard

A minimum level of one metre freeboard shall be maintained in the lagoons to prevent overflow from the treatment works to the receiving environment. Freeboard is defined as the difference in elevation between the contained liquid level and the top of the berm structure at its lowest point.

2.8 Fencing and Posting of the Lagoons

The treatment works shall be fenced to the satisfaction of the Regional Waste Manager to prevent accidental trespass into the area of the lagoons. The Permittee shall erect signs along the perimeter of the lagoons. The signs shall identify the nature of the works.

2.9 Posting of Cautionary Signs at Outfall

A cautionary sign shall be erected along the alignment of the outfall above high water mark on the Necoslie River. The sign shall identify the nature of the works. The wording and the size of the sign requires the consent of the Regional Waste Manager.

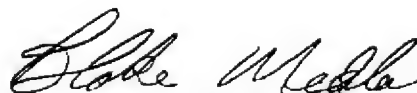
2.10 Sludge Wasting and Disposal

Sludge wasted from the treatment works shall be disposed of to a site and in a manner authorized by the Regional Manager.

2.11 Facility Classification

Facility classification shall be maintained with the British Columbia Water and Wastewater Operators Certification Program Society (BCWWOCPS). The wastewater treatment system authorized in Section 1.1.3 has been classified as **Level 1** by the British Columbia Water and Wastewater Operators Certification Program Society. The classification certificate shall be renewed annually and a reclassification review of each facility shall be conducted at least once every five (5) years.

Certification of operators is not required for facilities classified as Level 1.



B.W. Medlar
Assistant Regional Waste Manager

3. MONITORING AND REPORTING REQUIREMENTS

3.1 Grab Sampling

The Permittee shall install a suitable sampling facility and obtain a grab sample of the effluent from the treatment works at the point of discharge once each month. Proper care should be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

Sampling of effluent is to be carried out in accordance with procedures described in the most current edition of "Field Criteria for Sampling Effluent and Receiving Water" (April 1989, or most recent update), or by suitable alternative procedures as authorized by the Regional Waste Manager.

3.2 Analysis

Obtain analyses of the sample for the following:

- | | |
|-------------------------------------|-------------------------------------|
| a) 5-day Biochemical Oxygen Demand, | mg/L |
| b) Total Suspended Solids, | mg/L |
| c) Faecal Coliform Organisms, | MPN per 100 mL or
CFU per 100 mL |

Analyses are to be carried out in accordance with procedures described in the latest version of "BRITISH COLUMBIA ENVIRONMENTAL LABORATORY MANUAL for the Analysis of Water, Wastewater, Sediment and Biological Materials, March 1994 Permittee Edition", or by suitable alternative procedures as authorized by the Regional Waste Manager.

A copy of the above manual may be purchased from the Queen's Printer Publication Centre, 2nd Floor, 563 Superior Street, Victoria, British Columbia, V8V 4R6, (1-800-663-6105). The manual is also available for review at any Environmental Protection Program Office.

3.3 Flow Measurement

Provide and maintain some means, satisfactory to the Regional Waste Manager, for measuring or estimating the quantity of raw sewage discharged to the treatment works once per week over a 24-hour period. Record the quantity and have the data available for inspection.


Date Issued: July 19, 1968

Date Amended:

(most recent)

Page: 4 of 5

MAR 29 1995



B.W. Medlar

Assistant Regional Waste Manager

PERMIT : PE-0239

3.4 Reporting

Maintain data of analyses and flow measurements for inspection and submit the data, suitably tabulated, to the Regional Waste Manager. All reports shall be submitted within 30 days of the month end during which the monitoring program was carried out. Also submit, by January 31 of each year, an annual summary for the previous twelve month period and relate any proposed variations to the operation for the forthcoming year.

The need for subsequent increased or decreased monitoring will be assessed on the basis of the monitoring data submitted and any other data gathered by the Environmental Protection staff in connection with this discharge.



B.W. Medlar
Assistant Regional Waste Manager

Date Issued: July 19, 1968

Date Amended: MAR 29 1995

(most recent)

Page: 5 of 5

PERMIT : PE-0239

- 2 -

This decision may be appealed in accordance with Section 27 of the Waste Management Act by giving written notice to me within 21 days of this notification.

Yours truly,



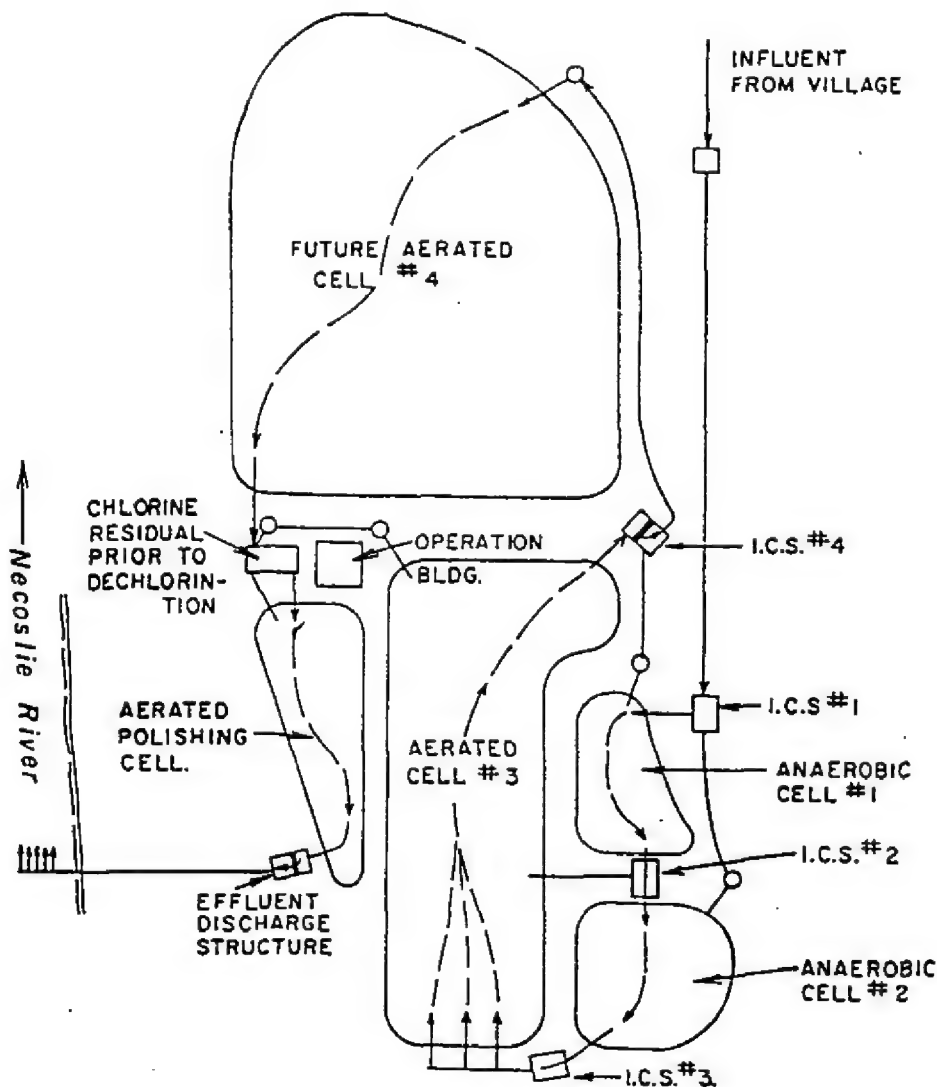
B.W. Medlar
Asst. Regional Waste Manager
Northern Interior Region

cc: Regional District of Bulkley Nechako
P.O. Box 820
Burns Lake, B.C. V0J 1E0



A0430854_244-000743

SITE PLAN A



N.T.S.

LEGAL LAND DESCRIPTION

Within Necoslie Indian Reserve No. 1 approximately 300 metres northeast of NW corner of District Lot 1631, Range 5, Coast Land District.

PE-0239
(Permit or Approval No.)

Site Plan A
(Appendix No.)

District of Fort St. James

P.O. Box 640, Fort St. James, British Columbia

VOJ 1P0

(Name of Applicant or Permittee)

July 19, 1968

(Date Issued)

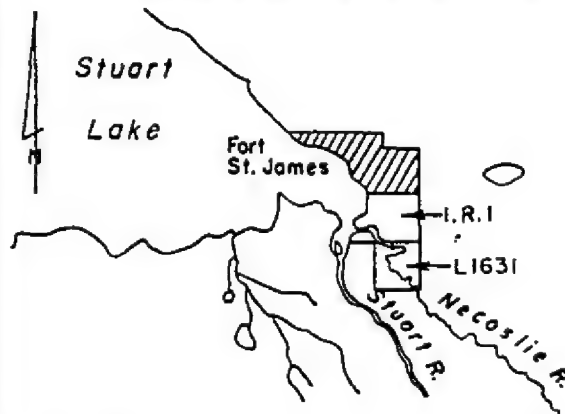
MAR 20 1995

(Date Amended)

B.W. Medlar

B.W. Medlar
Asst. Regional Waste Manager

GENERAL DESCRIPTION OR LOCATION MAP



Map 93K

Scale: 1:250 000

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

APPENDIX C

Fort St. James Data Sheet

Fort St. James Facts Sheet

Population:

District of Fort St. James (-2130 as of 1997 U.B.C.M. stats)

Service Populations:

Nak'azdli Band & Williams Praire	538 reserve residents
Tl'azten & Binche Bands	518
Yekooche Band	122
Takla Post Band	253
Middle River Band	39
Germanson Landing & Manson Creek	206
Regional District C Immediate Area	1500
Total Service Population	3176

Real Estate Market:

Average house sale price based on 1998 sales was \$110,000 to \$112,000 for 1100 square foot home with full basement 25 to 30 years old.

Housing prices range from a low of \$45,000 for a mobile home to \$400,000 for a custom home.

Lakeshore properties with house in the \$200,000 range. River front & lakeshore lots of 1 acre still available in the \$45,000 range.

Policing:

RCMP staff of 12 that covers 10,000 square miles. Includes District of Fort St. James, Nak'azdli, Yekooche, Binche, Tl'azten, Takla Post, Regional District C, Germanson Landing and Manson Creek.

Businesses:

Rural and business licence information suggest 250 businesses operating in the Fort St. James area. This number does not include the small independent logging subcontractors (i.e., truck owners, equipment owners, etc.) which may be another 100 businesses.

Primary Industry:

Forestry accounts for 80% of total employment.

Volume Harvested:

3.0 million cubic meters of raw logs are harvested annually within the Fort St. James Forest District. Slightly over 50% of that volume is processed at mills in Vanderhoof & Prince George and the balance is processed at Fort St. James facilities.

Major Employers:

Canadian Forest Products Ltd.
Apollo Forest Products Ltd.
Stuart Lake Lumber Ltd.
Tl'oh Forest Products.

In addition there are a number of major contractors to the mills in Fort St. James who contract the total harvesting function.

Local Government:

Municipal government is a mayor and 4 councillors who are elected and/or re-elected every 3 years.

Municipal Budget:

The District of Fort St. James operates on an annual total budget of \$2.5 million dollars.

Longterm Goal

Community sustainability & stability through existing and expanded industry. Development of tourism and other initiatives for economic diversity and partnerships.

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

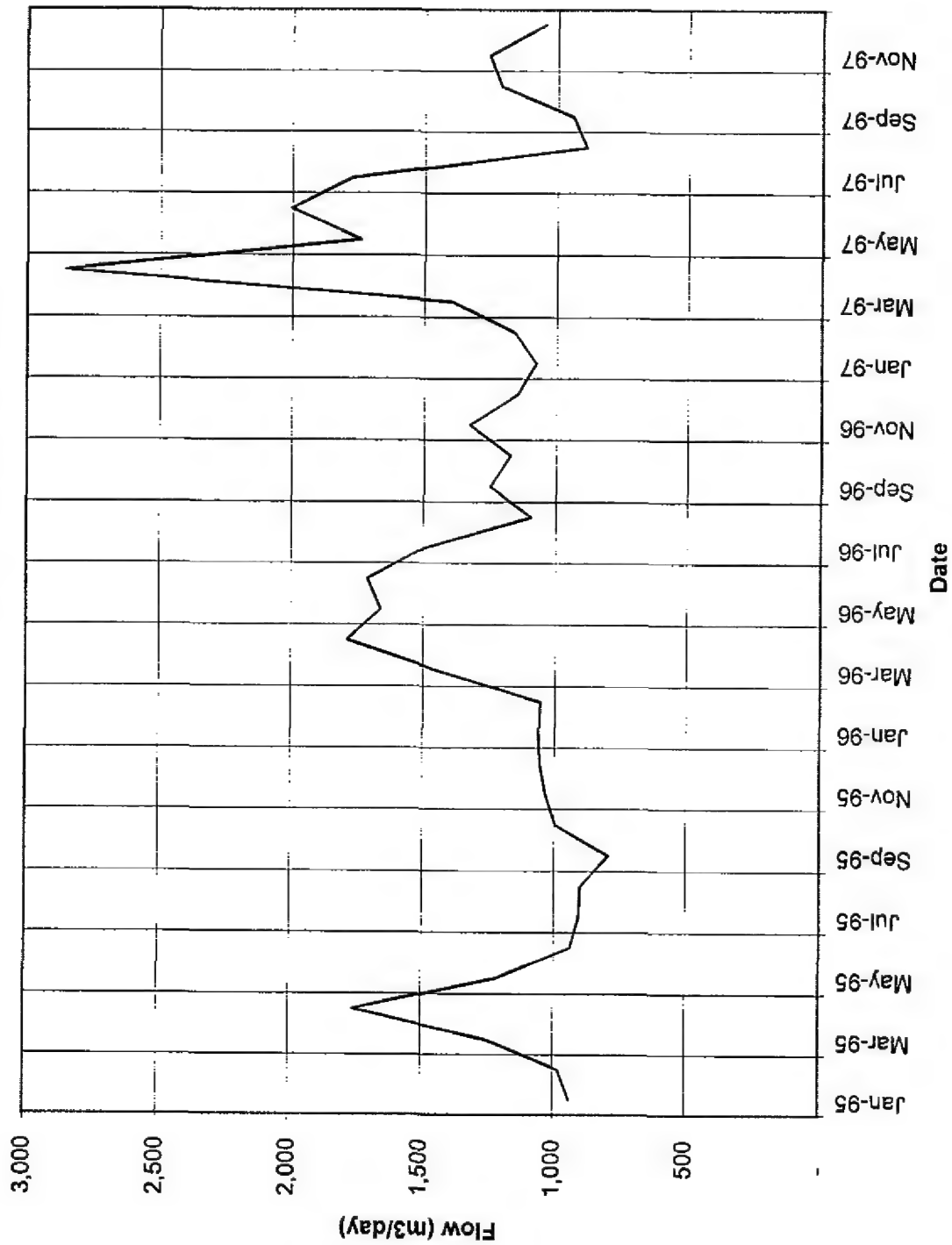
APPENDIX D

**Effluent Flow Meter Records
1995 – 1997**

District of Ft. St. James
Sewer Flows

Dayton and Knight Ltd.
330.1

Average Monthly Day Flows



**District of Ft. St. James
Sewer Flows**

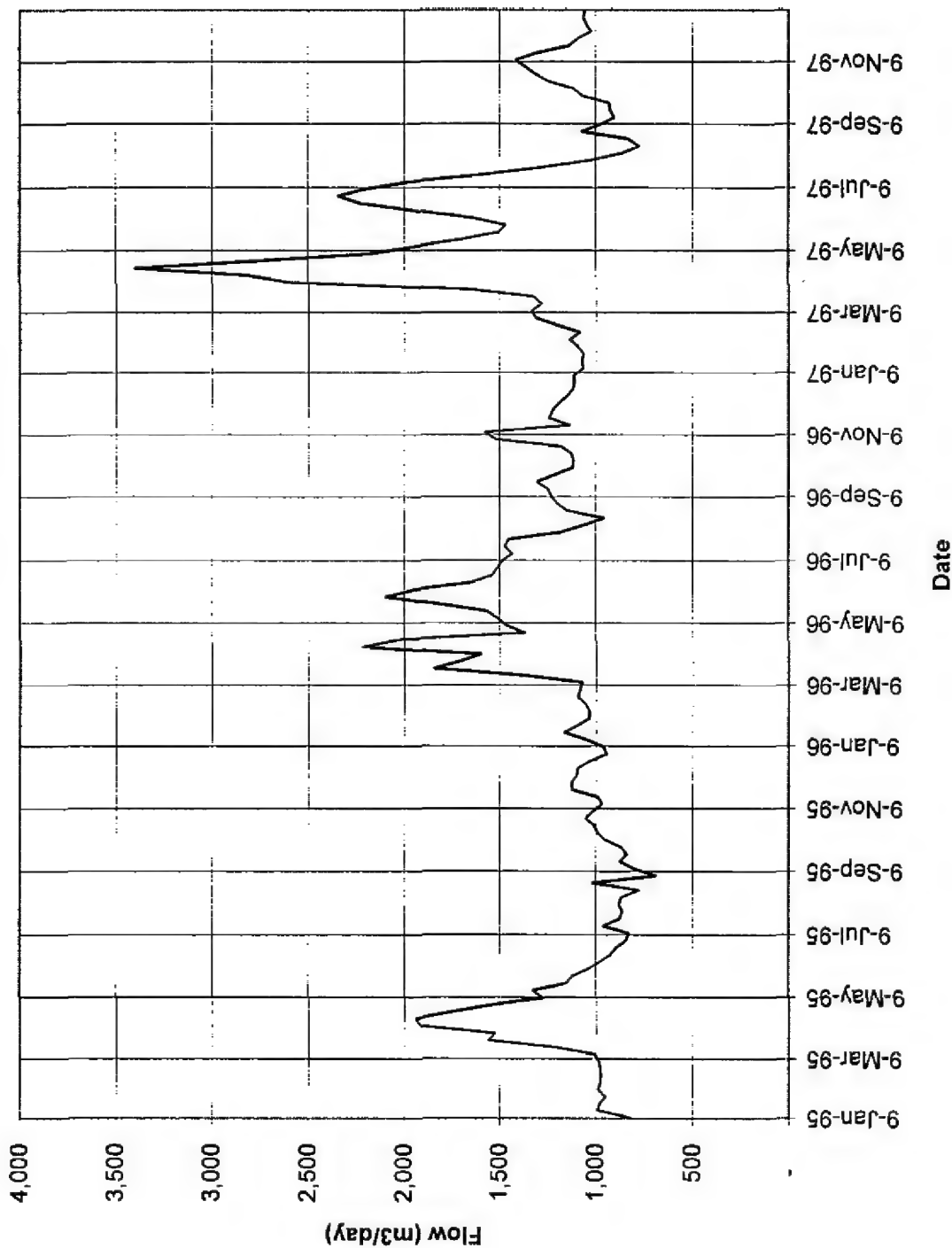
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to Information Act
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l'information*

Date	Average Monthly Day
January-95	937.9
February-95	980.1
March-95	1251.7
April-95	1755.4
May-95	1217.6
June-95	937.3
July-95	905.0
August-95	899.5
September-95	791.3
October-95	995.0
November-95	1033.7
December-95	1054.7
January-96	1061.0
February-96	1056.7
March-96	1439.1
April-96	1786.3
May-96	1658.8
June-96	1708.6
July-96	1492.9
August-96	1091.9
September-96	1250.2
October-96	1174.2
November-96	1327.3
December-96	1146.8
January-97	1077.8
February-97	1156.7
March-97	1393.3
April-97	2852.8
May-97	1741.1
June-97	2005.6
July-97	1774.3
August-97	888.2
September-97	940.1
October-97	1212.5
November-97	1256.9
December-97	1048.9

District of Ft. St. James
Sewer Flows

20/01/99 - 10:46 AM

Average Weekly Day



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l'information

**District of Ft. St. James
Sewer Flows**

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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information*

Date	Average Weekly Day
09-Jan-95	824
16-Jan-95	987
23-Jan-95	982
30-Jan-95	951
06-Feb-95	988
13-Feb-95	977
20-Feb-95	975
27-Feb-95	978
06-Mar-95	984
13-Mar-95	1,006
20-Mar-95	1,215
27-Mar-95	1,559
03-Apr-95	1,523
10-Apr-95	1,910
17-Apr-95	1,940
24-Apr-95	1,750
01-May-95	1,537
08-May-95	1,276
15-May-95	1,325
22-May-95	1,151
29-May-95	1,122
05-Jun-95	1,038
12-Jun-95	979
19-Jun-95	924
26-Jun-95	894
03-Jul-95	844
10-Jul-95	829
17-Jul-95	960
24-Jul-95	878
31-Jul-95	863
07-Aug-95	880
14-Aug-95	870
21-Aug-95	777
28-Aug-95	1,017
04-Sep-95	690
11-Sep-95	804
18-Sep-95	876
25-Sep-95	841
02-Oct-95	872
09-Oct-95	954
16-Oct-95	990
23-Oct-95	1,009
30-Oct-95	1,052
06-Nov-95	1,013
13-Nov-95	967
20-Nov-95	990
27-Nov-95	1,122
04-Dec-95	1,126

**District of Ft. St. James
Sewer Flows**

11-Dec-95	1,100
18-Dec-95	1,093
25-Dec-95	1,029
01-Jan-96	944
08-Jan-96	962
15-Jan-96	1,050
22-Jan-96	1,164
29-Jan-96	1,092
05-Feb-96	1,032
12-Feb-96	1,032
19-Feb-96	1,052
26-Feb-96	1,094
04-Mar-96	1,080
11-Mar-96	1,069
18-Mar-96	1,378
25-Mar-96	1,842
01-Apr-96	1,707
08-Apr-96	1,596
15-Apr-96	2,216
22-Apr-96	2,035
29-Apr-96	1,365
06-May-96	1,462
13-May-96	1,505
20-May-96	1,565
27-May-96	1,814
03-Jun-96	2,096
10-Jun-96	1,948
17-Jun-96	1,650
24-Jun-96	1,539
01-Jul-96	1,510
08-Jul-96	1,483
15-Jul-96	1,430
22-Jul-96	1,471
29-Jul-96	1,451
05-Aug-96	1,183
12-Aug-96	1,057
19-Aug-96	956
26-Aug-96	1,148
02-Sep-96	1,199
09-Sep-96	1,231
16-Sep-96	1,248
23-Sep-96	1,304
30-Sep-96	1,214
07-Oct-96	1,121
14-Oct-96	1,113
21-Oct-96	1,127
28-Oct-96	1,178
04-Nov-96	1,518
11-Nov-96	1,577
18-Nov-96	1,134
25-Nov-96	1,243
02-Dec-96	1,225

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**District of Ft. St. James
Sewer Flows**

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09-Dec-96	1,196
16-Dec-96	1,152
23-Dec-96	1,120
30-Dec-96	1,109
06-Jan-97	1,113
13-Jan-97	1,064
20-Jan-97	1,071
27-Jan-97	1,063
03-Feb-97	1,091
10-Feb-97	1,135
17-Feb-97	1,081
24-Feb-97	1,200
03-Mar-97	1,309
10-Mar-97	1,333
17-Mar-97	1,283
24-Mar-97	1,325
31-Mar-97	1,656
07-Apr-97	2,596
14-Apr-97	2,821
21-Apr-97	3,399
28-Apr-97	2,765
05-May-97	2,181
12-May-97	1,949
19-May-97	1,698
26-May-97	1,500
02-Jun-97	1,467
09-Jun-97	1,644
16-Jun-97	1,947
23-Jun-97	2,224
30-Jun-97	2,342
07-Jul-97	2,202
14-Jul-97	1,975
21-Jul-97	1,581
28-Jul-97	1,283
04-Aug-97	1,027
11-Aug-97	866
18-Aug-97	777
25-Aug-97	833
01-Sep-97	1,069
08-Sep-97	977
15-Sep-97	905
22-Sep-97	925
29-Sep-97	931
06-Oct-97	1,068
13-Oct-97	1,113
20-Oct-97	1,242
27-Oct-97	1,310
03-Nov-97	1,361
10-Nov-97	1,415
17-Nov-97	1,306
24-Nov-97	1,143
01-Dec-97	1,093

**District of Ft. St. James
Sewer Flows**

08-Dec-97	1,023
15-Dec-97	1,047
22-Dec-97	1,063
29-Dec-97	1,054

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**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
1-Jan-95							
2-Jan-95							
3-Jan-95	47%	36750212	3675021.2				
4-Jan-95	47%	36759196	3675919.6	898			
5-Jan-95	47%	36769398	3676939.8	1,020			
6-Jan-95	47%	36779014	3677901.4	962			
7-Jan-95			0	963			
8-Jan-95			0	963			
9-Jan-95	47%	36807892	3680789.2	963	961.33		
10-Jan-95	47%	36817625	3681762.5	973			
11-Jan-95	47%	36827470	3682747	985			
12-Jan-95	47%	36837393	3683739.3	992			
13-Jan-95	48%	36847345	3684734.5	995			
14-Jan-95			0	988			
15-Jan-95			0	988			
16-Jan-95	48%	36876994	3687699.4	988	987		
17-Jan-95	48%	36886956	3688695.6	998			
18-Jan-95	48%	36896910	3689691	995			
19-Jan-95			0	988			
20-Jan-95	48%	36916672	3691667.2	988			
21-Jan-95			0	970			
22-Jan-95			0	970			
23-Jan-95	47%	36945760	3694576	970	982		
24-Jan-95	45%	36955333	3695533.3	957			
25-Jan-95	45%	36964784	3696478.4	945			
26-Jan-95	45%	36974276	3697427.6	949			
27-Jan-95	45%	36983814	3698381.4	954			
28-Jan-95			0	951			
29-Jan-95			0	951			
30-Jan-95	46%	37012335	3701233.5	951	951		
31-Jan-95			0	987		938	
1-Feb-95	48%	37032078	3703207.8	987			
2-Feb-95	48%	37042107	3704210.7	1,003			
3-Feb-95	48%	37051802	3705180.2	970			
4-Feb-95			0	991			
5-Feb-95			0	991			
6-Feb-95	48%	37081523	3708152.3	991	988		
7-Feb-95	48%	37091117	3709111.7	959			
8-Feb-95	48%	37101130	3710113	1,001			
9-Feb-95	48%	37110967	3711096.7	984			
10-Feb-95	48%	37120775	3712077.5	981			
11-Feb-95			0	972			
12-Feb-95			0	972			
13-Feb-95	47%	37149939	3714993.9	972	977		
14-Feb-95	47%	37159542	3715954.2	960			
15-Feb-95	47%	37169145	3716914.5	960			
16-Feb-95	47%	37178767	3717876.7	962			
17-Feb-95			0	985			
18-Feb-95			0	985			
19-Feb-95			0	985			
20-Feb-95	48%	37218172	3721817.2	985	975		
21-Feb-95	47%	37227895	3722789.5	972			
22-Feb-95	47%	37237543	3723754.3	965			
23-Feb-95	47%	37247213	3724721.3	967			
24-Feb-95	47%	37256967	3725696.7	975			
25-Feb-95			0	989			
26-Feb-95			0	989			
27-Feb-95	48%	37286635	3728663.5	989	978		
28-Feb-95	48%	37296643	3729664.3	1,001		980	
1-Mar-95	47%	37306669	3730666.9	1,003			
2-Mar-95	47%	37316735	3731673.5	1,007			

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
3-Mar-95	47%	37326287	3732628.7	955			
4-Mar-95			0	973			
5-Mar-95			0	973			
6-Mar-95	47%	37355482	3735548.2	973	984		
7-Mar-95	47%	37365105	3736510.5	962			
8-Mar-95			0	979			
9-Mar-95	47%	37384685	3738468.5	979			
10-Mar-95	47%	37384934	3738493.4	1,030			
11-Mar-95			0	1,030			
12-Mar-95			0	1,030			
13-Mar-95	50%	37425871	3742587.1	1,030	1,006		
14-Mar-95	50%	37438157	3743815.7	1,029			
15-Mar-95	53%	37446873	3744687.3	1,052			
16-Mar-95			0	1,163			
17-Mar-95	60%	37469934	3746993.4	1,163			
18-Mar-95			0	1,365			
19-Mar-95			0	1,365			
20-Mar-95	68%	37510889	3751088.9	1,365	1,215		
21-Mar-95	74%	37525893	3752589.3	1,500			
22-Mar-95	74%	37541517	3754151.7	1,562			
23-Mar-95	75%	37557472	3755747.2	1,598			
24-Mar-95	77%	37573456	3757345.6	1,598			
25-Mar-95			0	1,553			
26-Mar-95			0	1,553			
27-Mar-95	73%	37620051	3762005.1	1,553	1,559		
28-Mar-95	73%	37635194	3763519.4	1,514			
29-Mar-95	75%	37650881	3765088.1	1,567			
30-Mar-95	81%	37667515	3766751.5	1,665			
31-Mar-95	85%	37684684	3768468.4	1,717		1,252	
1-Apr-95			0	1,400			
2-Apr-95			0	1,400			
3-Apr-95	72%	37726671	3772667.1	1,400	1,523		
4-Apr-95	78%	37742233	3774223.3	1,556			
5-Apr-95	90%	37761056	3776105.6	1,882			
6-Apr-95	95%	37780247	3778024.7	1,919			
7-Apr-95	95%	37799885	3779988.5	1,964			
8-Apr-95			0	2,016			
9-Apr-95			0	2,016			
10-Apr-95	72%	37860353	3786035.3	2,016	1,910		
11-Apr-95	95%	37879892	3787989.2	1,954			
12-Apr-95	95%	37899032	3789903.2	1,914			
13-Apr-95	94%	37918503	3791850.3	1,947			
14-Apr-95			0	1,942			
15-Apr-95			0	1,942			
16-Apr-95			0	1,942			
17-Apr-95			0	1,942	1,940		
18-Apr-95	93%	38015606	3801560.6	1,942			
19-Apr-95	93%	38034694	3803469.4	1,909			
20-Apr-95	93%	38053343	3805334.3	1,865			
21-Apr-95	79%	38069982	3806998.2	1,864			
22-Apr-95			0	1,824			
23-Apr-95			0	1,824			
24-Apr-95	77%	38118714	3811871.4	1,824	1,750		
25-Apr-95	77%	38134491	3813449.1	1,578			
26-Apr-95	77%	38150160	3815016	1,567			
27-Apr-95	75%	38165829	3816582.9	1,567			
28-Apr-95	74%	38181260	3818126	1,543			
29-Apr-95			0	1,502			
30-Apr-95			0	1,502		1,755	
1-May-95	72%	38226318	3822631.8	1,502	1,537		
2-May-95	68%	38241157	3824115.7	1,484			
3-May-95	68%	3825620	382562	1,437			

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
4-May-95	68%	38269887	3826988.7	1,437			
5-May-95	68%	38284079	3828407.9	1,419			
6-May-95			0	1,051			
7-May-95			0	1,051			
8-May-95			0	1,051	1,276		
9-May-95	65%	38326114	3832611.4	1,051			
10-May-95	65%	38339449	3833944.9	1,334			
11-May-95	64%	38352649	3835264.9	1,320			
12-May-95	63%	38365713	3836571.3	1,306			
13-May-95			0	1,423			
14-May-95			0	1,423			
15-May-95	60%	38408388	3840838.8	1,423	1,325		
16-May-95	60%	38416902	3841690.2	851			
17-May-95	60%	38429329	3842932.9	1,243			
18-May-95	58%	38441646	3844164.6	1,232			
19-May-95	58%	38453877	3845387.7	1,223			
20-May-95			0	1,170			
21-May-95			0	1,170			
22-May-95			0	1,170	1,151		
23-May-95	55%	38500683	3850068.3	1,170			
24-May-95	55%	38513020	3851302	1,234			
25-May-95	54%	38523292	3852329.2	1,027			
26-May-95	53%	38534400	3853440	1,111			
27-May-95			0	1,103			
28-May-95			0	1,103			
29-May-95	52%	38567498	3856749.8	1,103	1,122		
30-May-95	52%	38578250	3857825	1,075			
31-May-95	51%	38588755	3858875.5	1,051		1,218	
1-Jun-95	50%	38599172	3859917.2	1,042			
2-Jun-95	50%	38609611	3860961.1	1,044			
3-Jun-95			0	1,018			
4-Jun-95			0	1,018			
5-Jun-95	49%	38640149	3864014.9	1,018	1,038		
6-Jun-95	49%	38649906	3864990.6	976			
7-Jun-95	49%	38659859	3865985.9	995			
8-Jun-95	49%	38669802	3866980.2	994			
9-Jun-95	49%	38679699	3867969.9	990			
10-Jun-95			0	966			
11-Jun-95			0	966			
12-Jun-95	46%	38708666	3870866.6	966	979		
13-Jun-95	46%	38718115	3871811.5	945			
14-Jun-95	46%	38727560	3872756	945			
15-Jun-95	45%	38736934	3873693.4	937			
16-Jun-95	45%	38746171	3874617.1	924			
17-Jun-95			0	905			
18-Jun-95			0	905			
19-Jun-95	44%	38773327	3877332.7	905	924		
20-Jun-95	44%	38782252	3878225.2	893			
21-Jun-95	44%	38791143	3879114.3	889			
22-Jun-95	44%	38800157	3880015.7	901			
23-Jun-95	44%	38808985	3880898.5	883			
24-Jun-95			0	898			
25-Jun-95			0	898			
26-Jun-95	43%	38835913	3883591.3	898	894		
27-Jun-95	42%	38844715	3884471.5	880			
28-Jun-95	41%	38853248	3885324.8	853			
29-Jun-95			0	834			
30-Jun-95			0	834		937	
1-Jul-95			0	834			
2-Jul-95			0	834			
3-Jul-95			0	834	844		
4-Jul-95	40%	38903301	3890330.1	834			

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
5-Jul-95	40%	38911492	3891149.2	819			
6-Jul-95	40%	38919726	3891972.6	823			
7-Jul-95	41%	38928077	3892807.7	835			
8-Jul-95			0	831			
9-Jul-95			0	831			
10-Jul-95	44%	38953011	3895301.1	831	829		
11-Jul-95	43%	38962503	3896250.3	949			
12-Jul-95	43%	38972214	3897221.4	971			
13-Jul-95	48%	38982121	3898212.1	991			
14-Jul-95	48%	38991764	3899176.4	964			
15-Jul-95			0	949			
16-Jul-95			0	949			
17-Jul-95	45%	39020242	3902024.2	949	960		
18-Jul-95			0	913			
19-Jul-95	44%	39038504	3903850.4	913			
20-Jul-95	44%	39047437	3904743.7	893			
21-Jul-95	43%	39056165	3905616.5	873			
22-Jul-95			0	852			
23-Jul-95			0	852			
24-Jul-95	45%	39081726	3908172.6	852	878		
25-Jul-95	44%	39089759	3908975.9	803			
26-Jul-95	43%	39098351	3909835.1	859			
27-Jul-95	43%	39107113	3910711.3	876			
28-Jul-95	43%	39115885	3911588.5	877			
29-Jul-95			0	875			
30-Jul-95			0	875			
31-Jul-95			0	875	863	905	
1-Aug-95	44%	39150886	3915088.6	875			
2-Aug-95	44%	39159817	3915981.7	893			
3-Aug-95	44%	39169183	3916919.3	938			
4-Aug-95	44%	39177747	3917774.7	855			
5-Aug-95			0	867			
6-Aug-95			0	867			
7-Aug-95			0	867	880		
8-Aug-95	44%	39212430	3921243	867			
9-Aug-95	43%	39221026	3922102.6	860			
10-Aug-95	43%	39229633	3922963.3	861			
11-Aug-95	43%	39238184	3923818.4	855			
12-Aug-95			0	884			
13-Aug-95			0	884			
14-Aug-95	44%	39264690	3926469	884	870		
15-Aug-95	48%	39274139	3927413.9	945			
16-Aug-95	48%	39284098	3928409.8	996			
17-Aug-95	48%	39293818	3929381.8	972			
18-Aug-95	49%	39303820	3930382	1,000			
19-Aug-95			0	510			
20-Aug-95			0	510			
21-Aug-95	48%	39319106	3931910.6	510	777		
22-Aug-95	49%	39326818	3932681.8	771			
23-Aug-95	51%	39337169	3933716.9	1,035			
24-Aug-95	51%	39347697	3934769.7	1,053			
25-Aug-95	51%	39358470	3935847	1,077			
26-Aug-95			0	1,060			
27-Aug-95			0	1,060			
28-Aug-95	51%	39390274	3939027.4	1,060	1,017		
29-Aug-95	50%	39400747	3940074.7	1,047			
30-Aug-95	49%	39410859	3941085.9	1,011			
31-Aug-95	49%	39420979	3942097.9	1,012		899	
1-Sep-95	49%	39430831	3943083.1	985			
2-Sep-95			0	257			
3-Sep-95			0	257			
4-Sep-95			0	257	690		

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
5-Sep-95	45%	39441122	3944112.2	257			
6-Sep-95	45%	39449992	3944999.2	887			
7-Sep-95	45%	39458721	3945872.1	873			
8-Sep-95	44%	39467804	3946780.4	908			
9-Sep-95			0	900			
10-Sep-95			0	900			
11-Sep-95	44%	39494818	3949481.8	900	804		
12-Sep-95	44%	39503702	3950370.2	888			
13-Sep-95	44%	39512527	3951252.7	883			
14-Sep-95	44%	39521444	3952144.4	892			
15-Sep-95	44%	39530188	3953018.8	874			
16-Sep-95			0	865			
17-Sep-95			0	865			
18-Sep-95	41%	39556127	3955612.7	865	876		
19-Sep-95	41%	39564683	3956468.3	856			
20-Sep-95	41%	39572993	3957299.3	831			
21-Sep-95	40%	39581353	3958135.3	836			
22-Sep-95	41%	39589729	3958972.9	838			
23-Sep-95			0	842			
24-Sep-95			0	842			
25-Sep-95	40%	39614990	3961499	842	841		
26-Sep-95	41%	39623382	3962338.2	839			
27-Sep-95	42%	39631847	3963184.7	847			
28-Sep-95	44%	39640602	3964060.2	878			
29-Sep-95	44%	39649509	3964950.9	891			
30-Sep-95			0	885		791	
1-Oct-95			0	885			
2-Oct-95	45%	39676053	3967605.3	885	872		
3-Oct-95	45%	39685087	3968508.7	901			
4-Oct-95	44%	39694200	3969420	913			
5-Oct-95	45%	39703334	3970333.4	913			
6-Oct-95	48%	39712813	3971281.3	948			
7-Oct-95			0	1,000			
8-Oct-95			0	1,000			
9-Oct-95			0	1,000	954		
10-Oct-95	48%	39752804	3975280.4	1,000			
11-Oct-95	48%	39762782	3976278.2	998			
12-Oct-95	48%	39772813	3977281.3	1,003			
13-Oct-95	48%	39782810	3978281	1,000			
14-Oct-95			0	977			
15-Oct-95			0	977			
16-Oct-95	49%	39812111	3981211.1	977	990		
17-Oct-95	49%	39822186	3982218.6	1,008			
18-Oct-95	49%	39832328	3983232.8	1,014			
19-Oct-95	49%	39842380	3984238	1,005			
20-Oct-95	50%	39852410	3985241	1,003			
21-Oct-95			0	1,010			
22-Oct-95			0	1,010			
23-Oct-95	50%	39882709	3988270.9	1,010	1,009		
24-Oct-95	50%	39892746	3989274.6	1,004			
25-Oct-95	50%	39902749	3990274.9	1,000			
26-Oct-95	50%	39913132	3991313.2	1,038			
27-Oct-95	51%	39923765	3992376.5	1,063			
28-Oct-95			0	1,087			
29-Oct-95			0	1,087			
30-Oct-95	51%	39956370	3995637	1,087	1,052		
31-Oct-95	51%	3996624	399662.4	1,042		995	
1-Nov-95	50%	39977219	3997721.9	1,042			
2-Nov-95	50%	39987409	3998740.9	1,019			
3-Nov-95	50%	39997478	3999747.8	1,007			
4-Nov-95			0	993			
5-Nov-95			0	993			

**District of Ft. St. James
Sewer Flows**

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Loi sur l'accès à l'information*

Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
6-Nov-95	48%	40027262	4002726.2	993	1,013		
7-Nov-95	46%	40037031	4003703.1	977			
8-Nov-95	46%	40046705	4004670.5	967			
9-Nov-95	46%	40056516	4005651.6	981			
10-Nov-95			0	960			
11-Nov-95			0	960			
12-Nov-95			0	960			
13-Nov-95	45%	4009597	400959.7	960	967		
14-Nov-95	46%	40104527	4010452.7	960			
15-Nov-95	45%	40113960	4011396	943			
16-Nov-95	46%	40123635	4012363.5	968			
17-Nov-95	46%	40133015	4013301.5	938			
18-Nov-95			0	1,040			
19-Nov-95			0	1,040			
20-Nov-95	52%	40164202	4016420.2	1,040	990		
21-Nov-95	53%	40175338	4017533.8	1,114			
22-Nov-95	53%	40186440	4018644	1,110			
23-Nov-95	54%	40197608	4019760.8	1,117			
24-Nov-95	54%	40208918	4020891.8	1,131			
25-Nov-95			0	1,129			
26-Nov-95			0	1,129			
27-Nov-95	54%	40242774	4024277.4	1,129	1,122		
28-Nov-95	54%	40253846	4025384.6	1,107			
29-Nov-95	56%	40265382	4026538.2	1,154			
30-Nov-95	56%	40276915	4027691.5	1,153		1,034	
1-Dec-95			0	1,117			
2-Dec-95			0	1,117			
3-Dec-95			0	1,117			
4-Dec-95			0	1,117	1,126		
5-Dec-95	52%	40332777	4033277.7	1,117			
6-Dec-95	51%	40343429	4034342.9	1,065			
7-Dec-95	51%	40353786	4035378.6	1,036			
8-Dec-95	50%	40367747	4036774.7	1,396			
9-Dec-95			0	1,028			
10-Dec-95			0	1,028			
11-Dec-95			0	1,028	1,100		
12-Dec-95	54%	40408858	4040885.8	1,028			
13-Dec-95			0	1,096			
14-Dec-95	54%	40430782	4043078.2	1,096			
15-Dec-95			0	1,107			
16-Dec-95			0	1,107			
17-Dec-95			0	1,107			
18-Dec-95			0	1,107	1,093		
19-Dec-95	52%	40486137	4048613.7	1,107			
20-Dec-95	50%	40496542	4049654.2	1,041			
21-Dec-95	50%	40507031	4050703.1	1,049			
22-Dec-95	50%	40517478	4051747.8	1,045			
23-Dec-95			0	988			
24-Dec-95			0	988			
25-Dec-95			0	988	1,029		
26-Dec-95			0	988			
27-Dec-95	46%	40566858	4056685.8	988			
28-Dec-95	45%	40578252	4057825.2	939			
29-Dec-95	45%	40585286	4058528.6	903			
30-Dec-95			0	930			
31-Dec-95			0	930		1,055	1,065
1-Jan-96			0	930	944		
2-Jan-96	47%	40622477	4062247.7	930			
3-Jan-96	46%	40631899	4063189.9	942			
4-Jan-96	45%	40641460	4064146	956			
5-Jan-96	51%	40650862	4065086.2	940			
6-Jan-96			0	988			

**District of Ft. St. James
Sewer Flows**

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Loi sur l'accès à l'information*

Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
7-Jan-96			0	988			
8-Jan-96	50%	40680504	4068050.4	988	962		
9-Jan-96			0	1,014			
10-Jan-96	50%	40700788	4070078.8	1,014			
11-Jan-96	49%	4071808	407180.8	1,012			
12-Jan-96	51%	40721030	4072103	1,012			
13-Jan-96			0	1,099			
14-Jan-96			0	1,099			
15-Jan-96	55%	40753997	4075399.7	1,099	1,050		
16-Jan-96	57%	40765514	4076551.4	1,152			
17-Jan-96	57%	40777453	4077745.3	1,194			
18-Jan-96	58%	40787192	4078719.2	974			
19-Jan-96	56%	40800879	4080087.9	1,369			
20-Jan-96			0	1,154			
21-Jan-96			0	1,154			
22-Jan-96	57%	40835486	4083548.6	1,154	1,164		
23-Jan-96	57%	40846769	4084676.9	1,128			
24-Jan-96	57%	40857974	4085797.4	1,121			
25-Jan-96	53%	40868883	4086888.3	1,091			
26-Jan-96	53%	40879763	4087976.3	1,088			
27-Jan-96			0	1,071			
28-Jan-96			0	1,071			
29-Jan-96	50%	40911901	4091190.1	1,071	1,092		
30-Jan-96	50%	40922408	4092240.8	1,051			
31-Jan-96	50%	40932789	4093278.9	1,038		1,061	
1-Feb-96	50%	40943132	4094313.2	1,034			
2-Feb-96	49%	40953384	4095338.4	1,025			
3-Feb-96			0	1,024			
4-Feb-96			0	1,024			
5-Feb-96	50%	40984114	4098411.4	1,024	1,032		
6-Feb-96	50%	40994395	4099439.5	1,028			
7-Feb-96			0	1,039			
8-Feb-96	50%	41015174	4101517.4	1,039			
9-Feb-96	50%	41025575	4102557.5	1,040			
10-Feb-96			0	1,026			
11-Feb-96			0	1,026			
12-Feb-96	49%	41056365	4105636.5	1,026	1,032		
13-Feb-96	51%	41066863	4106686.3	1,050			
14-Feb-96	51%	41077457	4107745.7	1,059			
15-Feb-96	51%	41088013	4108801.3	1,057			
16-Feb-96	51%	41098593	4109859.3	1,057			
17-Feb-96			0	1,048			
18-Feb-96			0	1,048			
19-Feb-96	51%	41130036	4113003.6	1,048	1,052		
20-Feb-96	52%	41140753	4114075.3	1,072			
21-Feb-96	54%	41151594	4115159.4	1,084			
22-Feb-96	53%	41162670	4116267	1,108			
23-Feb-96	54%	41173503	4117350.3	1,083			
24-Feb-96			0	1,103			
25-Feb-96			0	1,103			
26-Feb-96	52%	41206598	4120659.8	1,103	1,094		
27-Feb-96	53%	41217444	4121744.4	1,085			
28-Feb-96	53%	41228430	4122843	1,099			
29-Feb-96			0	1,081		1,057	
1-Mar-96	52%	41250045	4125004.5	1,081			
2-Mar-96			0	1,072			
3-Mar-96			0	1,072			
4-Mar-96	52%	41282195	4128219.5	1,072	1,080		
5-Mar-96	55%	41292847	4129284.7	1,065			
6-Mar-96	55%	41303685	4130368.5	1,084			
7-Mar-96	55%	41313758	4131375.8	1,007			
8-Mar-96	49%	41324120	4132412	1,036			

**District of Ft. St. James
Sewer Flows**

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Loi sur l'accès à

Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
9-Mar-96			0	1,098			
10-Mar-96			0	1,098			
11-Mar-96	55%	41357050	4135705	1,098	1,069		
12-Mar-96	56%	41368230	4136823	1,118			
13-Mar-96	58%	41380000	4138000	1,177			
14-Mar-96	61%	41392374	4139237.4	1,237			
15-Mar-96	67%	41405625	4140562.5	1,325			
16-Mar-96			0	1,597			
17-Mar-96			0	1,597			
18-Mar-96	83%	41453521	4145352.1	1,597	1,378		
19-Mar-96	86%	41471203	4147120.3	1,768			
20-Mar-96	86%	41489436	4148943.6	1,823			
21-Mar-96	90%	41508164	4150816.4	1,873			
22-Mar-96	90%	41527077	4152707.7	1,891			
23-Mar-96			0	1,846			
24-Mar-96			0	1,846			
25-Mar-96	85%	41582462	4158246.2	1,846	1,842		
26-Mar-96	83%	41600317	4160031.7	1,786			
27-Mar-96	82%	41617884	4161788.4	1,757			
28-Mar-96	80%	41635165	4163516.5	1,728			
29-Mar-96	80%	41652179	4165217.9	1,701			
30-Mar-96			0	1,659			
31-Mar-96			0	1,659		1,439	
1-Apr-96	77%	41701936	4170193.6	1,659	1,707		
2-Apr-96	76%	41717989	4171798.9	1,605			
3-Apr-96	75%	41734088	4173408.8	1,610			
4-Apr-96	74%	41749328	4174932.8	1,524			
5-Apr-96			0	1,609			

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
6-Apr-96			0	1,609			
7-Apr-96			0	1,609			
8-Apr-96			0	1,609	1,596		
9-Apr-96	86%	41829781	4182978.1	1,609			
10-Apr-96	94%	41848430	4184843	1,865			
11-Apr-96	100%	41871514	4187151.4	2,308			
12-Apr-96	100%	41895543	4189554.3	2,403			
13-Apr-96			0	2,443			
14-Apr-96			0	2,443			
15-Apr-96	100%	41968836	4196883.6	2,443	2,216		
16-Apr-96	100%	41992926	4199292.6	2,409			
17-Apr-96	100%	42017095	4201709.5	2,417			
18-Apr-96	100%	42041272	4204127.2	2,418			
19-Apr-96	100%	42065828	4206582.8	2,456			
20-Apr-96			0	1,516			
21-Apr-96			0	1,516			
22-Apr-96	60%	42111307	4211130.7	1,516	2,035		
23-Apr-96	63%	42123883	4212388.3	1,258			
24-Apr-96	64%	42136980	4213698	1,310			
25-Apr-96	65%	42150386	4215038.6	1,341			
26-Apr-96	67%	42164555	4216455.5	1,417			
27-Apr-96			0	1,411			
28-Apr-96			0	1,411			
29-Apr-96	70%	42206883	4220688.3	1,411	1,365		
30-Apr-96	70%	42221226	4222122.6	1,434		1,786	
1-May-96	70%	42235790	4223579	1,456			
2-May-96	70%	42250442	4225044.2	1,465			
3-May-96	70%	42264934	4226493.4	1,449			
4-May-96			0	1,476			
5-May-96			0	1,476			
6-May-96	71%	42309218	4230921.8	1,476	1,462		
7-May-96	71%	42324198	4232419.8	1,498			
8-May-96	71%	42339214	4233921.4	1,502			
9-May-96	72%	42354192	4235419.2	1,498			
10-May-96	72%	4236984	423698.4	1,510			
11-May-96			0	1,510			
12-May-96			0	1,510			
13-May-96	72%	42414601	4241460.1	1,510	1,505		
14-May-96	72%	42429728	4242972.8	1,513			
15-May-96	74%	42445271	4244527.1	1,555			
16-May-96	74%	42460644	4246064.4	1,537			
17-May-96	78%		0	1,588			
18-May-96			0	1,588			
19-May-96			0	1,588			
20-May-96			0	1,588	1,565		
21-May-96	82%	42540026	4254002.6	1,588			
22-May-96	83%	42557429	4255742.9	1,740			
23-May-96	85%		0	1,873			
24-May-96	86%	42592293087	4259229309	1,873			
25-May-96			0	1,873			
26-May-96			0	1,873			
27-May-96	97%	42651101	4265110.1	1,873	1,814		
28-May-96	95%	42671033	4267103.3	1,993			
29-May-96	95%	42692725	4269272.5	2,169			
30-May-96	100%	42714563	4271456.3	2,184			
31-May-96	100%	42735467	4273546.7	2,090		1,659	
1-Jun-96			0	2,078			
2-Jun-96			0	2,078			
3-Jun-96	100%	42797808	4279780.8	2,078	2,096		
4-Jun-96	99%	42818850	4281885	2,104			
5-Jun-96	98%	42838766	4283876.6	1,992			
6-Jun-96	97%	42858738	4285873.8	1,997			
7-Jun-96	93%	42878149	4287814.9	1,941			
8-Jun-96			0	1,868			
9-Jun-96			0	1,868			
10-Jun-96	86%	42934175	4293417.5	1,868	1,948		

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
11-Jun-96	84%	42951844	4295184.4	1,767			
12-Jun-96	81%	42969158	4296915.8	1,731			
13-Jun-96	80%	42985961	4298596.1	1,680			
14-Jun-96	79%	43002435	4300243.5	1,647			
15-Jun-96			0	1,574			
16-Jun-96			0	1,574			
17-Jun-96	75%	4309943	430994.3	1,574	1,650		
18-Jun-96	74%	43065382	4306538.2	1,574			
19-Jun-96	74%	43080730	4308073	1,535			
20-Jun-96	73%	43096064	4309606.4	1,533			
21-Jun-96	73%	43111287	4311128.7	1,522			
22-Jun-96			0	1,535			
23-Jun-96			0	1,535			
24-Jun-96	73%	43157348	4315734.8	1,535	1,539		
25-Jun-96	73%	43172449	4317244.9	1,510			
26-Jun-96	73%	43187502	4318750.2	1,505			
27-Jun-96	73%	43202351	4320235.1	1,485			
28-Jun-96	73%	43217999	4321799.9	1,565			
29-Jun-96			0	1,502			
30-Jun-96			0	1,502		1,709	
1-Jul-96			0	1,502	1,510		
2-Jul-96	70%	43278070	4327807	1,502			
3-Jul-96	69%	43292640	4329264	1,457			
4-Jul-96	69%	43307303	4330730.3	1,466			
5-Jul-96	71%	43322196	4332219.6	1,489			
6-Jul-96			0	1,489			
7-Jul-96			0	1,489			
8-Jul-96	72%	43366858	4336685.8	1,489	1,483		
9-Jul-96	70%	43381723	4338172.3	1,487			
10-Jul-96	70%	43396493	4339649.3	1,477			
11-Jul-96	70%	43410995	4341099.5	1,450			
12-Jul-96	69%	43425170	4342517	1,418			
13-Jul-96			0	1,394			
14-Jul-96			0	1,394			
15-Jul-96	66%	43466982	4346698.2	1,394	1,430		
16-Jul-96	65%	43481181	4348118.1	1,420			
17-Jul-96	65%	43494187	4349418.7	1,301			
18-Jul-96	70%	43508162	4350816.2	1,398			
19-Jul-96	72%	43522961	4352296.1	1,480			
20-Jul-96			0	1,567			
21-Jul-96			0	1,567			
22-Jul-96	76%	43569978	4356997.8	1,567	1,471		
23-Jul-96	76%	43586014	4358601.4	1,604			
24-Jul-96	75%	43601943	4360194.3	1,593			
25-Jul-96	75%	43616368	4361636.8	1,443			
26-Jul-96	72%	43631643	4363164.3	1,528			
27-Jul-96			0	1,330			
28-Jul-96			0	1,330			
29-Jul-96	62%	43671545	4367154.5	1,330	1,451		
30-Jul-96	62%	43683838	4368383.8	1,229			
31-Jul-96	59%		0	1,196		1,493	
1-Aug-96	67%		0	1,196			
2-Aug-96	67%	43719726	4371972.6	1,196			
3-Aug-96			0	1,155			
4-Aug-96			0	1,155			
5-Aug-96			0	1,155	1,183		
6-Aug-96	56%	43765925	4376592.5	1,155			
7-Aug-96	55%	43777450	4377745	1,153			
8-Aug-96	54%	43788812	4378881.2	1,136			
9-Aug-96	54%	43799940	4379994	1,113			
10-Aug-96			0	947			
11-Aug-96			0	947			
12-Aug-96			0	947	1,057		
13-Aug-96	49%	43837814	4383781.4	947			
14-Aug-96			0	979			
15-Aug-96	45%	43857387	4385738.7	979			

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
16-Aug-96	48%	438644199	43864419.9	947			
17-Aug-96			0	947			
18-Aug-96			0	947			
19-Aug-96	54%	43895278	4389527.8	947	956		
20-Aug-96	55%	43906215	4390621.5	1,094			
21-Aug-96	54%	43917275	4391727.5	1,106			
22-Aug-96	56%	43928703	4392870.3	1,143			
23-Aug-96	58%	43940415	4394041.5	1,171			
24-Aug-96			0	1,173			
25-Aug-96			0	1,173			
26-Aug-96	55%	43975611	4397561.1	1,173	1,148		
27-Aug-96	56%	43989481	4398948.1	1,387			
28-Aug-96	55%		0	1,062			
29-Aug-96	56%	44010729	4401072.9	1,062			
30-Aug-96	56%	44021664	4402166.4	1,094			
31-Aug-96			0	1,263		1,092	
1-Sep-96			0	1,263			
2-Sep-96			0	1,263	1,199		
3-Sep-96	62%	44072178	4407217.8	1,263			
4-Sep-96	60%	44084870	4408487	1,269			
5-Sep-96	58%	44097101	4409710.1	1,223			
6-Sep-96	60%	44109199	4410919.9	1,210			
7-Sep-96			0	1,216			
8-Sep-96			0	1,216			
9-Sep-96	58%	44145693	4414569.3	1,216	1,231		
10-Sep-96			0	1,245			
11-Sep-96	59%	44170600	4417060	1,245			
12-Sep-96	58%	44182809	4418280.9	1,221			
13-Sep-96	60%	44194794	4419479.4	1,199			
14-Sep-96			0	1,276			
15-Sep-96			0	1,276			
16-Sep-96	65%	44233086	4423308.6	1,276	1,248		
17-Sep-96	64%	44246349	4424634.9	1,326			
18-Sep-96	64%	44259700	4425970	1,335			
19-Sep-96	64%	44272987	4427298.7	1,329			
20-Sep-96	63%	44286054	4428605.4	1,307			
21-Sep-96			0	1,278			
22-Sep-96			0	1,278			
23-Sep-96	61%	44324385	4432438.5	1,278	1,304		
24-Sep-96	60%	44336993	4433699.3	1,261			
25-Sep-96	60%	44349347	4434934.7	1,235			
26-Sep-96	60%	44361694	4436169.4	1,235			
27-Sep-96	58%	44373881	4437388.1	1,219			
28-Sep-96			0	1,182			
29-Sep-96			0	1,182			
30-Sep-96	55%	44409344	4440934.4	1,182	1,214	1,250	
1-Oct-96	54%	44420498	4442049.8	1,115			
2-Oct-96	54%	44431489	4443148.9	1,099			
3-Oct-96	55%	44442494	4444249.4	1,101			
4-Oct-96	55%	44453704	4445370.4	1,121			
5-Oct-96			0	1,137			
6-Oct-96			0	1,137			
7-Oct-96	55%	44487825	4448782.5	1,137	1,121		
8-Oct-96			0	1,091			
9-Oct-96	53%	44509653	4450965.3	1,091			
10-Oct-96	53%	44520846	4452084.6	1,119			
11-Oct-96	55%	44533619	4453361.9	1,277			
12-Oct-96			0	1,072			
13-Oct-96			0	1,072			
14-Oct-96			0	1,072	1,113		
15-Oct-96	52%	44576485	4457648.5	1,072			
16-Oct-96			0	1,150			
17-Oct-96	51%	44599477	4459947.7	1,150			
18-Oct-96	55%	44610769	4461076.9	1,129			
19-Oct-96			0	1,129			
20-Oct-96			0	1,129			

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
21-Oct-96	54%	44644645	4464464.5	1,129	1,127		
22-Oct-96	56%	44655937	4465593.7	1,129			
23-Oct-96	56%	44667233	4466723.3	1,130			
24-Oct-96	60%	44675132	4467513.2	790			
25-Oct-96	63%	44687786	4468778.6	1,265			
26-Oct-96			0	1,310			
27-Oct-96			0	1,310			
28-Oct-96	70%	44727091	4472709.1	1,310	1,178		
29-Oct-96	71%	44743534	4474353.4	1,644			
30-Oct-96	71%	44758566	4475856.6	1,503			
31-Oct-96	71%	44773361	4477336.1	1,480		1,174	
1-Nov-96	71%	44788136	4478813.6	1,478			
2-Nov-96			0	1,507			
3-Nov-96			0	1,507			
4-Nov-96	75%	44833347	4483334.7	1,507	1,518		
5-Nov-96	81%	44849928	4484992.8	1,658			
6-Nov-96	85%	44867788	4486778.8	1,786			
7-Nov-96	84%	44884957	4488495.7	1,717			
8-Nov-96	85%	4492927	449292.7	1,470			
9-Nov-96			0	1,470			
10-Nov-96			0	1,470			
11-Nov-96			0	1,470	1,577		
12-Nov-96			0	1,470			
13-Nov-96	58%	44973167	4497316.7	1,470			
14-Nov-96		44974252	4497425.2	1,099			
15-Nov-96	59%	44986145	4498614.5	1,189			
16-Nov-96			0	1,232			
17-Nov-96			0	1,232			
18-Nov-96	60%	45023114	4502311.4	1,232	1,134		
19-Nov-96	60%	45035480	4503548	1,237			
20-Nov-96	60%	45048042	4504804.2	1,256			
21-Nov-96	60%	45060275	4506027.5	1,223			
22-Nov-96	60%	45072618	4507261.8	1,234			
23-Nov-96			0	1,250			
24-Nov-96			0	1,250			
25-Nov-96	60%	45110119	4511011.9	1,250	1,243		
26-Nov-96	60%	45122063	4512206.3	1,194			
27-Nov-96	60%	45134586	4513458.6	1,252			
28-Nov-96	60%	45146923	4514692.3	1,234			
29-Nov-96	60%	45159389	4515938.9	1,247			
30-Nov-96			0	1,217		1,327	
1-Dec-96			0	1,217			
2-Dec-96			0	1,217	1,225		
3-Dec-96	58%	45208061	4520806.1	1,217			
4-Dec-96	59%	45220083	4522008.3	1,202			
5-Dec-96	58%	45232683	4523268.3	1,260			
6-Dec-96	58%	45244018	4524401.8	1,174			
7-Dec-96			0	1,174			
8-Dec-96			0	1,174			
9-Dec-96	56%	45279640	4527964	1,174	1,196		
10-Dec-96	57%	45291385	4529138.5	1,175			
11-Dec-96		45303204	4530320.4	1,182			
12-Dec-96	56%	45314957	4531495.7	1,175			
13-Dec-96	56%	45326676	4532667.6	1,172			
14-Dec-96			0	1,121			
15-Dec-96			0	1,121			
16-Dec-96	55%	45360294	4536029.4	1,121	1,152		
17-Dec-96	55%	45371806	4537180.6	1,151			
18-Dec-96	55%	45371806	4537180.6	1,126			
19-Dec-96	54%	45394330	4539433	1,126			
20-Dec-96			0	1,110			
21-Dec-96			0	1,110			
22-Dec-96			0	1,110			
23-Dec-96	53%	45438718	4543871.8	1,110	1,120		
24-Dec-96	53%	45450724	4545072.4	1,201			
25-Dec-96			0	1,120			

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
26-Dec-96				0	1,120		
27-Dec-96	53%	45484331	4548433.1	1,120			
28-Dec-96				0	1,068		
29-Dec-96				0	1,068		
30-Dec-96	52%	45516364	4551636.4	1,068	1,109		
31-Dec-96	52%	45527077	4552707.7	1,071		1,147	1,345
1-Jan-97				0	1,158		
2-Jan-97	53%	45550245	4555024.5	1,158			
3-Jan-97	53%	45562788	4556278.8	1,254			
4-Jan-97				0	1,050		
5-Jan-97				0	1,050		
6-Jan-97	52%	45594287	4559428.7	1,050	1,113		
7-Jan-97	53%	45603770	4560377	948			
8-Jan-97	52%	45614597	4561459.7	1,083			
9-Jan-97	52%	45625364	4562536.4	1,077			
10-Jan-97	52%	45636285	4563628.5	1,092			
11-Jan-97				0	1,082		
12-Jan-97				0	1,082		
13-Jan-97				0	1,082	1,064	
14-Jan-97	52%	45668887	4566888.7	1,082			
15-Jan-97	52%	45690384	4569038.4	1,082			
16-Jan-97	52%	45700997	4570099.7	1,061			
17-Jan-97	52%	45711657	4571165.7	1,066			
18-Jan-97				0	1,069		
19-Jan-97				0	1,069		
20-Jan-97	52%	45743731	4574373.1	1,069	1,071		
21-Jan-97	52%	45754470	4575447	1,074			
22-Jan-97	52%	45765224	4576522.4	1,075			
23-Jan-97	52%	45775869	4577586.9	1,065			
24-Jan-97	56%	45786489	4578648.9	1,062			
25-Jan-97				0	1,055		
26-Jan-97				0	1,055		
27-Jan-97	51%	45818128	4581812.6	1,055	1,063		
28-Jan-97	51%	45828669	4582866.9	1,054			
29-Jan-97	51%	45839427	4583942.7	1,076			
30-Jan-97	52%	45850134	4585013.4	1,071			
31-Jan-97	52%	45861185	4586118.5	1,105		1,078	
1-Feb-97				0	1,111		
2-Feb-97				0	1,111		
3-Feb-97	54%	4589382	458938.2	1,111	1,091		
4-Feb-97	55%	45905609	4590560.9	1,111			
5-Feb-97	54%	45916695	4591669.5	1,109			
6-Feb-97	54%	45927871	4592787.1	1,118			
7-Feb-97	55%	45939223	4593922.3	1,135			
8-Feb-97				0	1,158		
9-Feb-97				0	1,158		
10-Feb-97	55%	45973951	4597395.1	1,158	1,135		
11-Feb-97	52%	45984653	4598465.3	1,070			
12-Feb-97	51%	45995284	4599528.4	1,063			
13-Feb-97				0	1,068		
14-Feb-97	52%	46016646	4601664.6	1,068			
15-Feb-97				0	1,099		
16-Feb-97				0	1,099		
17-Feb-97	55%	46049613	4604961.3	1,099	1,081		
18-Feb-97	56%	46061108	4606110.8	1,150			
19-Feb-97	57%	46072843	4607284.3	1,174			
20-Feb-97	56%	46084616	4608461.6	1,177			
21-Feb-97	58%	46096781	4609678.1	1,217			
22-Feb-97				0	1,228		
23-Feb-97				0	1,228		
24-Feb-97	60%	46133635	4613363.5	1,228	1,200		
25-Feb-97	61%	46146199	4614619.9	1,256			
26-Feb-97	62%	46158965	4615896.5	1,277			
27-Feb-97	63%	46171981	4617198.1	1,302			
28-Feb-97	63%	46185062	4618506.2	1,308		1,157	
1-Mar-97				0	1,340		

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
2-Mar-97			0	1,340			
3-Mar-97			0	1,340	1,309		
4-Mar-97	65%	46238671	4623867.1	1,340			
5-Mar-97	64%	46251906	4625190.6	1,324			
6-Mar-97	65%	46265342	4626534.2	1,344			
7-Mar-97	64%	46278691	4627869.1	1,335			
8-Mar-97			0	1,329			
9-Mar-97			0	1,329			
10-Mar-97	64%	46318556	4631855.6	1,329	1,333		
11-Mar-97	64%	46331879	4633187.9	1,312			
12-Mar-97	62%	46344126	4634412.6	1,245			
13-Mar-97	62%	46357684	4635768.4	1,356			
14-Mar-97	61%	46370497	4637049.7	1,281			
15-Mar-97			0	1,262			
16-Mar-97			0	1,262			
17-Mar-97	60%	46408359	4640835.9	1,262	1,283		
18-Mar-97	60%	46420853	4642085.3	1,249			
19-Mar-97	61%	46433287	4643328.7	1,243			
20-Mar-97	61%	46446067	4644606.7	1,278			
21-Mar-97	65%	46459122	4645912.2	1,306			
22-Mar-97			0	1,399			
23-Mar-97			0	1,399			
24-Mar-97	68%	46501103	4650110.3	1,399	1,325		
25-Mar-97	70%	46515154	4651515.4	1,405			
26-Mar-97	68%	46529868	4652986.8	1,471			
27-Mar-97	76%	46545247	4654524.7	1,538			
28-Mar-97			0	1,794			
29-Mar-97			0	1,794			
30-Mar-97			0	1,794			
31-Mar-97			0	1,794	1,656	1,393	
1-Apr-97	98%	46634924	4663492.4	1,794			
2-Apr-97	100%	46658600	4665860	2,368			
3-Apr-97	100%	46681755	4668175.5	2,316			
4-Apr-97	100%	46709426	4670942.6	2,767			
5-Apr-97			0	2,976			
6-Apr-97			0	2,976			
7-Apr-97	100%	46798707	4679870.7	2,976	2,596		
8-Apr-97	100%	46831386	4683138.6	3,268			
9-Apr-97	100%	46859287	4685928.7	2,790			
10-Apr-97	100%	46884428	4688442.8	2,514			
11-Apr-97	65%	46911170	4691117	2,674			
12-Apr-97	66%	46937893	4693789.3	2,672			
13-Apr-97	68%	46967252	4696725.2	2,936			
14-Apr-97	70%	46996201	4699620.1	2,895	2,821		
15-Apr-97	72%	47024455	4702445.5	2,825			
16-Apr-97	82%	47058678	4705867.8	3,422			
17-Apr-97	91%	47093247	4709324.7	3,457			
18-Apr-97	95%	47128998	4712899.8	3,575			
19-Apr-97			0	3,504			
20-Apr-97			0	3,504			
21-Apr-97	85%	47234129	4723412.9	3,504	3,399		
22-Apr-97	73%	47263832	4726383.2	2,970			
23-Apr-97	71%	47292846	4729284.6	2,901			
24-Apr-97	69%	47320387	4732038.7	2,754			
25-Apr-97	70%	47348441	4734844.1	2,805			
26-Apr-97			0	2,640			
27-Apr-97			0	2,640			
28-Apr-97	64%	47427654	4742765.4	2,640	2,785		
29-Apr-97	57%	47450501	4745050.1	2,285			
30-Apr-97	56%	47472821	4747282.1	2,232		2,853	
1-May-97	55%	47494979	4749497.9	2,216			
2-May-97	56%	47516841	4751684.1	2,186			
3-May-97			0	2,116			
4-May-97			0	2,116			
5-May-97	51%	47580319	4758031.9	2,116	2,181		
6-May-97	52%	47600887	4760088.7	2,057			

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
7-May-97	51%	47621212	4762121.2	2,033			
8-May-97	50%	47641152	4764115.2	1,994			
9-May-97	49%	47660603	4766060.3	1,945			
10-May-97			0	1,871			
11-May-97			0	1,871			
12-May-97	48%	47716738	4771673.6	1,871	1,949		
13-May-97	45%	47734721	4773472.1	1,799			
14-May-97	44%	47753029	4775302.9	1,831			
15-May-97	44%	47769693	4776969.3	1,666			
16-May-97	43%	47786793	4778679.3	1,710			
17-May-97			0	1,626			
18-May-97			0	1,626			
19-May-97			0	1,626	1,698		
20-May-97	40%	47851843	4785184.3	1,626			
21-May-97	40%	47867337	4786733.7	1,549			
22-May-97	39%	47882467	4788246.7	1,513			
23-May-97	39%	47897338	4789733.8	1,487			
24-May-97			0	1,442			
25-May-97			0	1,442			
26-May-97	36%	47940600	4794060	1,442	1,500		
27-May-97	36%	47955190	4795519	1,459			
28-May-97	36%	47968872	4796887.2	1,368			
29-May-97	35%	47982739	4798273.9	1,387			
30-May-97	39%	47997207	4799720.7	1,447			
31-May-97			0	1,535		1,741	
1-Jun-97			0	1,535			
2-Jun-97	40%	48043288	4804328.8	1,535	1,467		
3-Jun-97	40%	48059202	4805920.2	1,593			
4-Jun-97	41%	48075078	4807507.8	1,588			
5-Jun-97	41%	48091140	4809114	1,606			
6-Jun-97	42%	48107454	4810745.4	1,631			
7-Jun-97			0	1,697			
8-Jun-97			0	1,697			
9-Jun-97	40%	48158352	4815835.2	1,697	1,844		
10-Jun-97	41%	48176232	4817623.2	1,788			
11-Jun-97	39%	48194490	4819449	1,826			
12-Jun-97	40%	48213610	4821361	1,912			
13-Jun-97	50%	48233063	4823306.3	1,945			
14-Jun-97			0	2,054			
15-Jun-97			0	2,054			
16-Jun-97	53%	48294670	4829467	2,054	1,947		
17-Jun-97	55%	48315681	4831568.1	2,101			
18-Jun-97	55%	48337342	4833734.2	2,166			
19-Jun-97	56%	48359564	4835956.4	2,222			
20-Jun-97	58%	48382021	4838202.1	2,246			
21-Jun-97			0	2,277			
22-Jun-97			0	2,277			
23-Jun-97	58%	48450321	4845032.1	2,277	2,224		
24-Jun-97	59%	48474292	4847429.2	2,397			
25-Jun-97	60%	48497360	4849736	2,307			
26-Jun-97	59%	48511411	4851141.1	2,359			
27-Jun-97		48544541	4854454.1	2,359			
28-Jun-97			0	2,323			
29-Jun-97			0	2,323			
30-Jun-97	57%	48614240	4861424	2,323	2,342	2,006	
1-Jul-97			0	2,266			
2-Jul-97	56%	48659553	4865955.3	2,266			
3-Jul-97	56%	48681916	4868191.6	2,236			
4-Jul-97	55%	48704296	4870429.6	2,238			
5-Jul-97			0	2,137			
6-Jul-97			0	2,137			
7-Jul-97	54%	48768404	4876840.4	2,137	2,202		
8-Jul-97	53%	48789414	4878941.4	2,101			
9-Jul-97	52%	48810174	4881017.4	2,076			
10-Jul-97	52%	48830535	4883053.5	2,036			
11-Jul-97	51%	48850335	4885033.5	1,980			

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
12-Jul-97			0	1,877			
13-Jul-97			0	1,877			
14-Jul-97	45%	48906842	4890684.2	1,877	1,975		
15-Jul-97	45%	48924263	4892426.3	1,762			
16-Jul-97	43%	48941247	4894124.7	1,698			
17-Jul-97	41%	48957640	4895764	1,639			
18-Jul-97	40%	48973244	4897324.4	1,560			
19-Jul-97			0	1,469			
20-Jul-97			0	1,469			
21-Jul-97	37%	49017317	4901731.7	1,469	1,581		
22-Jul-97	36%	49031171	4903117.1	1,385			
23-Jul-97	35%	49044660	4904466	1,349			
24-Jul-97	35%	49057937	4905793.7	1,328			
25-Jul-97	34%	49070800	4907080	1,286			
26-Jul-97			0	1,211			
27-Jul-97			0	1,211			
28-Jul-97	30%	49107132	4910713.2	1,211	1,283		
29-Jul-97	30%	49118625	4911862.5	1,149			
30-Jul-97	29%	49129464	4912946.4	1,084			
31-Jul-97	29%	49141052	4914105.2	1,159		1,774	
1-Aug-97	26%	49150462	4915046.2	941			
2-Aug-97			0	951			
3-Aug-97			0	951			
4-Aug-97			0	951	1,027		
5-Aug-97	25%	49188519	4918851.9	951			
6-Aug-97	24%	49197318	4919731.8	880			
7-Aug-97	24%	49205995	4920599.5	868			
8-Aug-97	24%	49214908	4921490.8	891			
9-Aug-97			0	824			
10-Aug-97			0	824			
11-Aug-97	23%	49239619	4923961.9	824	866		
12-Aug-97	22%	49247706	4924770.6	809			
13-Aug-97	23%	49255880	4925588	817			
14-Aug-97	21%	49263696	4926369.6	782			
15-Aug-97	21%	49271383	4927138.3	769			
16-Aug-97			0	754			
17-Aug-97			0	754			
18-Aug-97	20%	4924171	492417.1	754	777		
19-Aug-97	21%	49301539	4930153.9	754			
20-Aug-97	20%	49309014	4930901.4	748			
21-Aug-97	20%	49316412	4931641.2	740			
22-Aug-97	21%	49323566	4932356.6	715			
23-Aug-97			0	958			
24-Aug-97			0	958			
25-Aug-97	26%	49352295	4935229.5	958	833		
26-Aug-97	26%	49362165	4936216.5	987			
27-Aug-97	30%	49372036	4937203.6	987			
28-Aug-97	30%	49383439	4938343.9	1,140			
29-Aug-97	30%	49394888	4939488.8	1,145			
30-Aug-97			0	1,075			
31-Aug-97			0	1,075		888	
1-Sep-97			0	1,075	1,069		
2-Sep-97	26%	49437895	4943789.5	1,075			
3-Sep-97	26%	49447888	4944788.8	999			
4-Sep-97	25%	49457517	4945751.7	963			
5-Sep-97	25%	49466918	4946691.8	940			
6-Sep-97			0	954			
7-Sep-97			0	954			
8-Sep-97	25%	49495547	4949554.7	954	977		
9-Sep-97	25%	49504675	4950467.5	913			
10-Sep-97	25%	49513898	4951389.8	922			
11-Sep-97	25%	49522934	4952293.4	904			
12-Sep-97	25%	49532104	4953210.4	917			
13-Sep-97			0	893			
14-Sep-97			0	893			
15-Sep-97	25%	49558887	4955888.7	893	905		

**District of Ft. St. James
Sewer Flows**

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Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
16-Sep-97	25%	49568068	4956806.8	918			
17-Sep-97	25%	49577505	4957750.5	944			
18-Sep-97	25%	49586843	4958684.3	934			
19-Sep-97	25%	49596151	4959615.1	931			
20-Sep-97			0	917			
21-Sep-97			0	917			
22-Sep-97	25%	49623667	4962366.7	917	925		
23-Sep-97	25%	49632800	4963280	913			
24-Sep-97	25%	49641934	4964193.4	913			
25-Sep-97	25%	49651123	4965112.3	919			
26-Sep-97	25%	49660480	4966048	936			
27-Sep-97			0	946			
28-Sep-97			0	946			
29-Sep-97	25%	49688871	4968887.1	946	931		
30-Sep-97	25%	49698423	4969842.3	955		940	
1-Oct-97	26%	49708392	4970839.2	997			
2-Oct-97	29%	49719006	4971900.6	1,061			
3-Oct-97	27%	497310126	49731012.6	1,116			
4-Oct-97			0	1,116			
5-Oct-97			0	1,116			
6-Oct-97	25%	49763626	4976362.6	1,116	1,068		
7-Oct-97	24%	49774826	4977482.6	1,120			
8-Oct-97	24%	49785775	4978577.5	1,095			
9-Oct-97	24%	49796639	4979663.9	1,086			
10-Oct-97	25%	49807835	4980783.5	1,120			
11-Oct-97			0	1,123			
12-Oct-97			0	1,123			
13-Oct-97			0	1,123	1,113		
14-Oct-97	25%	49852741	4985274.1	1,123			
15-Oct-97	25%	49864530	4986453	1,179			
16-Oct-97	31%	49876600	4987660	1,207			
17-Oct-97	33%	49889336	4988933.6	1,274			
18-Oct-97			0	1,304			
19-Oct-97			0	1,304			
20-Oct-97	34%	49928441	4992844.1	1,304	1,242		
21-Oct-97	34%	49941576	4994157.6	1,314			
22-Oct-97	34%	49954322	4995432.2	1,275			
23-Oct-97	34%	49967373	4996737.3	1,305			
24-Oct-97	34%	49980183	4998018.3	1,281			
25-Oct-97			0	1,333			
26-Oct-97			0	1,333			
27-Oct-97	35%	50020164	5002016.4	1,333	1,310		
28-Oct-97	35%	50033575	5003357.5	1,341			
29-Oct-97	35%	50046975	5004697.5	1,340			
30-Oct-97	35%	50060472	5006047.2	1,350			
31-Oct-97	35%	50074304	5007430.4	1,383		1,213	
1-Nov-97			0	1,370			
2-Nov-97			0	1,370			
3-Nov-97	36%	50115412	5011541.2	1,370	1,361		
4-Nov-97	36%	50129377	5012937.7	1,397			
5-Nov-97	36%	50143529	5014352.9	1,415			
6-Nov-97	37%	50157759	5015775.9	1,423			
7-Nov-97	37%	50172188	5017218.8	1,443			
8-Nov-97			0	1,409			
9-Nov-97			0	1,409			
10-Nov-97	36%	50214450	5021445	1,409	1,415		
11-Nov-97			0	1,373			
12-Nov-97	35%	50241909	5024190.9	1,373			
13-Nov-97	34%	50255060	5025506	1,315			
14-Nov-97	34%	50268112	5026811.2	1,305			
15-Nov-97			0	1,260			
16-Nov-97			0	1,260			
17-Nov-97	36%	50305899	5030589.9	1,260	1,306		
18-Nov-97	36%	50319034	5031903.4	1,314			
19-Nov-97	33%	50329742	5032974.2	1,071			
20-Nov-97	34%	50341454	5034145.4	1,171			

**District of Ft. St. James
Sewer Flows**

*Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information*

Date	Percentage	Meter		Daily Flow	Average Weekly Day	Average Monthly Day	Average Yearly Day
21-Nov-97	30%	50352788	5035278.8	1,133			
22-Nov-97			0	1,103			
23-Nov-97			0	1,103			
24-Nov-97	34%	50385887	5038588.7	1,103	1,143		
25-Nov-97	34%	50398796	5039879.6	1,091			
26-Nov-97	28%	50407692	5040769.2	1,090			
27-Nov-97	30%	50420617	5042061.7	1,293			
28-Nov-97	29%	50429329	5042932.9	871			
29-Nov-97			0	1,102			
30-Nov-97			0	1,102		1,257	
1-Dec-97	28%	50462391	5046239.1	1,102	1,093		
2-Dec-97	27%	50472388	5047238.8	1,000			
3-Dec-97	28%	50482535	5048253.5	1,015			
4-Dec-97	28%	50492893	5049289.3	1,036			
5-Dec-97	27%	50503190	5050319	1,030			
6-Dec-97			0	1,028			
7-Dec-97			0	1,028			
8-Dec-97	27%	50534020	5053402	1,028	1,023		
9-Dec-97	27%	50544358	5054435.8	1,034			
10-Dec-97	26%	50554372	5055437.2	1,001			
11-Dec-97	26%	50565598	5056559.8	1,123			
12-Dec-97	26%	50575106	5057510.6	951			
13-Dec-97			0	1,074			
14-Dec-97			0	1,074			
15-Dec-97	27%	50607339	5060733.9	1,074	1,047		
16-Dec-97	29%	50617070	5061707	973			
17-Dec-97	29%	50627981	5062798.1	1,091			
18-Dec-97	29%	50638753	5063875.3	1,077			
19-Dec-97	28%	50649448	5064944.8	1,070			
20-Dec-97			0	1,077			
21-Dec-97			0	1,077			
22-Dec-97			0	1,077	1,063		
23-Dec-97	28%	50692543	5069254.3	1,077			
24-Dec-97	28%	50703140	5070314	1,060			
25-Dec-97			0	1,048			
26-Dec-97			0	1,048			
27-Dec-97			0	1,048			
28-Dec-97			0	1,048			
29-Dec-97	28%	50755561	5075556.1	1,048	1,054	1,049	1,440

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

APPENDIX E

Computer Modelling Data

FORT ST. JAMES WWTP
JOB NO. 330.1
DESIGN CONDITIONS: SUMMER

	CURRENT CONDITIONS		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Conditions
INFLUENT PARAMETERS				
Daily Flow, m3/d	1285	2700	1800	3000
Wastewater Temperature, C	12	12	12	12
BOD5, mg/L	250	120	230	140
Assumed Theta Coefficient	1.088	1.088	1.088	1.088
Assumed K1 Coefficient	0.276	0.276	0.276	0.276
ANAEROBIC CELL NO. 1				
Assumed Water Temperature, C	12	12	12	12
Cell Volume, m3	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.8	1.3	2.0	1.2
BOD Loading, kg/m3/d	0.0883	0.0890	0.1137	0.1154
BOD Loading, lb/1000 cu. ft/d	5.51	5.58	7.10	7.20
Expected BOD Reduction, %	10	7	8	6
Effluent BOD5, mg/L	225	111.6	211.6	131.6
ANAEROBIC CELL NO. 2				
Assumed Water Temperature, C	12	12	12	12
Influent BOD5, mg/L	225	111.6	211.6	131.6
Cell Volume, m3	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.8	1.3	2.0	1.2
BOD Loading, kg/m3/d	0.079	0.083	0.105	0.108
BOD Loading, lb/1000 cu. ft/d	4.96	5.17	6.53	6.77
Expected BOD Reduction, %	10	7	8	6
Effluent BOD5, mg/L	202.5	103.788	194.672	123.704
AERATED CELL NO.3				
Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	202.5	103.788	194.672	123.704
Cell Volume, m3	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, Days	21.2	10.1	15.2	9.1
BOD5 Loading, kg/m3/d	0.0095	0.0103	0.0128	0.0136
Effluent BOD, mg/L	50.24	42.50	61.54	53.83
BOD Removed, kg/d	195.65	165.49	239.64	209.63
Oxygen to BOD5 ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	411	348	503	440
Approx. Air Flow Required at 4% oxygen tra	492	416	603	527
Actual Available Air Flow, L/s (max)	480	480	480	480
Additional Aeration Required ? (Yes/No)	Yes	No	Yes	Yes
Note: If additional aeration is noted required, existing effluent quality may be compromised.				
SETTLING CELL NO.4				
Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	50.24	42.50	61.54	53.83
Cell Volume, m3	69000	69000	69000	69000
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	54	28	38	23
BOD5 Loading, kg/m3/d	0.001	0.002	0.002	0.002
Effluent BOD, mg/L	5.80	9.15	9.51	12.57
BOD Removed, kg/d	57.10	90.04	93.64	123.76
Oxygen to BOD5 ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, kg/d	119.92	189.08	196.65	259.90
Approx. Air Flow Required at 4% oxygen tra	143.68	226.55	235.81	311.40
Actual Available Air Flow, L/s (Max)	76.00	76.00	76.00	76.00
Additional Aeration Required ? (Yes/No)	Yes	Yes	Yes	Yes
Note: If additional aeration is noted required, existing effluent quality may be compromised.				
CHLORINE CONTACT TANK				
Volume, m3	52	52	52	52
Hydraulic Retention Time, min	58	28	42	25
AERATED POLISHING CELL NO.5				
Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	5.80	9.15	9.51	12.57
Cell Volume, m3	6200	6200	6200	6200
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	4.8	2.3	3.4	2.1
BOD5 Loading, kg/m3/d	0.0012	0.0040	0.0028	0.0061
Effluent BOD, mg/L	3.44	6.89	6.38	9.71
BOD Removed, kg/d	3.04	6.09	5.64	8.59
Oxygen to BOD5 ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	6.38	12.80	11.85	18.04
Approx. Air Flow Required at 4% oxygen tra	7.65	15.33	14.20	21.61
Actual Available air flow, L/s (Max)	104	104	104	104

	CURRENT CONDITIONS		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Condition
INFLUENT PARAMETERS				
Daily Flow, m ³ /d	1285	2700	1800	3000
Wastewater Temperature, C	10	10	10	10
BOD ₅ , mg/L	250	120	230	140
Assumed Theta Coefficient	1.088	1.088	1.088	1.088
Assumed K ₁ Coefficient	0.278	0.278	0.278	0.278
Assumed air temperature, C	-10	-10	-10	-10
ANAEROBIC CELL NO. 1				
Assumed water temperature, C	7	7	7	7
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.8	1.3	2.0	1.2
BOD Loading, kg/m ³ /d	0.0883	0.0890	0.1137	0.1154
BOD Loading, lb/1000 cu. ft./d	5.51	5.68	7.10	7.20
Expected BOD Reduction, %	8	8	8	5
Effluent BOD ₅	230	112.8	218.2	133
ANAEROBIC CELL NO. 2				
Influent BOD ₅ , mg/L	230	112.8	218.2	133
Assumed water temperature, C	5	5	5	5
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.8	1.3	2.0	1.2
BOD Loading, kg/m ³ /d	0.081	0.084	0.107	0.110
BOD Loading, lb/1000 cu. ft./d	5.07	5.22	6.67	6.84
Expected BOD Reduction, %	7	5	5	4
Effluent BOD ₅ , mg/L	213.9	107.18	205.39	127.68
AERATED CELL NO. 3				
Assumed water temperature, C	4	4	4	4
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	213.9	107.18	205.39	127.68
Cell Volume, m ³	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic retention time, days	21	10	15	9
BOD ₅ Loading, kg/m ³ /d	0.0101	0.0108	0.0135	0.0140
Effluent BOD, mg/L	83.35	61.39	96.96	76.41
BOD Removed, kg/d	187.78	123.57	185.17	153.80
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	352	259	410	323
Approx. Air Flow Required at 4% efficiency, L/s	422	311	491	387
Actual Available Air Flow, L/s (max)	480	480	480	480
Additional Aeration Required? (Yes/No)	No	No	Yes	No
Note: If additional aeration is noted required, existing effluent quality may be compromised.				
SETTLING CELL NO. 4				
Assumed water temperature, C	3	3	3	3
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	83.35	61.39	96.96	76.41
Cell Volume, m ³	69000	69000	69000	69000
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	54	26	38	23
BOD ₅ Loading, kg/m ³ /d	0.002	0.002	0.003	0.003
Effluent BOD, mg/L	17.84	22.45	28.92	29.83
BOD Removed, kg/d	84.05	106.15	128.09	139.74
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required- Average Day, kg/d	176.50	220.82	264.78	293.46
Approx. Air Flow Required at 4% oxygen transfer, L/s	211.47	284.58	317.25	351.61
Actual Available Air Flow, L/s (Max)	76.00	76.00	76.00	76.00
Additional Aeration Required? (Yes/No)	Yes	Yes	Yes	Yes
Note: If additional aeration is noted required, existing effluent quality may be compromised.				
CHLORINE CONTACT TANK				
Volume, m ³	52	52	52	52
Hydraulic Retention Time, min	58	28	42	25
AERATED POLISHING CELL NO. 5				
Assumed water temperature, C	3	3	3	3
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	17.84	22.45	26.92	29.83
Cell Volume, m ³	6200	6200	6200	6200
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, Days	4.8	2.3	3.4	2.1
BOD ₅ Loading, kg/m ³ /d	0.0037	0.0096	0.0078	0.0144
Effluent BOD, mg/L	13.51	19.42	21.82	26.16
BOD Removed, kg/d	5.89	8.17	9.18	11.01
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required - Average Day, kg/d	11.95	17.17	19.28	23.12
Approx. Air Flow Required at 4% oxygen transfer, L/s	14.31	20.57	23.10	27.71
Actual Available air flow, L/s (Max)	104	104	104	104

FORT ST. JAMES WWTP
JOB NO. 330.1
DESIGN CONDITIONS: WINTER

Cell No. 4 Subdivided into 2 cells

	CURRENT CONDITIONS		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Condition
INFLUENT PARAMETERS				
Daily Flow, m ³ /d	1285	2700	1800	3000
Wastewater Temperature, C	10	10	10	10
BOD ₅ , mg/L	250	120	240	140
Assumed Theta Coefficient	1.086	1.086	1.086	1.086
Assumed K _t Coefficient	0.276	0.276	0.276	0.276
ANAEROBIC CELL NO. 1				
Assumed water temperature, C	7	7	7	7
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.0883	0.0890	0.1187	0.1154
BOD Loading, lb/1000 cu. ft./d	5.51	5.56	7.41	7.20
Expected BOD Reduction, %	0	0	0	0
	250	120	240	140
ANAEROBIC CELL NO. 2				
Assumed water temperature, C	8	7	7	7
Influent BOD ₅ , mg/L	250	120	240	140
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.088	0.089	0.118	0.115
BOD Loading, lb/1000 cu.ft./d	5.51	5.56	7.41	7.20
Expected BOD Reduction, %	0	0	0	0
Effluent BOD ₅ , mg/L	250	120	240	140
AERATED CELL NO.3				
Assumed water temperature, C	5	8	8	6
K (at design temperature)	0.08	0.09	0.09	0.09
Influent BOD, mg/L	250	120	240	140
Cell Volume, m ³	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	21	10	15	9
BOD ₅ Loading, kg/m ³ /d	0.0118	0.0119	0.0158	0.0154
Effluent BOD, mg/L	92.56	63.86	103.50	78.16
BOD Removed, kg/d	202.32	151.59	245.70	185.53
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	425	318	516	390
Approx. Air Flow Required at 4% oxygen tra	509	381	618	457
Actual Available Air Flow, L/s (max)	480	480	480	480
AERATED CELL NO.4A				
Assumed water temperature, C	4	4	4	4
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	92.56	63.86	103.50	78.16
Cell Volume, m ³	34500	34500	34500	34500
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	27	13	19	12
BOD ₅ Loading, kg/m ³ /d	0.003	0.005	0.005	0.007
Effluent BOD, mg/L	31.06	32.88	42.89	42.30
BOD Removed, kg/d	78.02	83.64	109.10	107.58
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, kg/d	165.93	175.63	229.11	225.92
Approx. Air Flow Required at 4% oxygen tra	198.81	210.44	274.60	270.69
CHLORINE CONTACT TANK				
Volume, m ³	52	52	52	52
Hydraulic Retention Time, min	58.27237	27.73333	41.6	24.96
SETTLING CELL 4B				
Assumed water temperature, C	3.5	3.5	3.5	3.5
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	31.06	32.88	42.89	42.30
Cell Volume, m ³	34500	34500	34500	34500
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	26.8	12.8	19.2	11.5
BOD ₅ Loading, kg/m ³ /d	0.0012	0.0026	0.0022	0.0037
Effluent BOD, mg/L	10.71	17.27	18.20	23.32
BOD Removed, kg/d	26.15	42.15	44.44	56.92
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	54.92	88.52	93.31	119.54
Approx. Air Flow Required at 4% oxygen tra	65.80	108.06	111.80	143.22

FORT ST. JAMES WWTP
JOB NO. 336.1
DESIGN CONDITIONS: SUMMER Cell No. 4 Subdivided into 2 cells

	CURRENT CONDITIONS		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Conditions
INFLUENT PARAMETERS				
Daily Flow, m ³ /d	1285	2700	1800	3000
Wastewater Temperature, C	12	12	12	12
BOD ₅ , mg/L	250	120	240	140
Assumed Theta Coefficient	1.086	1.086	1.086	1.086
Assumed KI Coefficient	0.278	0.278	0.278	0.278
ANAEROBIC CELL NO. 1				
Assumed water temperature, C	12	12	12	12
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.0883	0.0890	0.1187	0.1154
BOD Loading, lb/1000 cu ft/d	5.31	5.58	7.41	7.20
Expected BOD Reduction, %	0	0	0	0
Effluent BOD ₅ , mg/L	250	120	240	140
ANAEROBIC CELL NO. 2				
Assumed water temperature, C	12	12	12	12
Influent BOD ₅ , mg/L	250	120	240	140
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.088	0.089	0.119	0.115
BOD Loading, lb/1000 cu ft/d	5.51	5.58	7.41	7.20
Expected BOD Reduction, %	0	0	0	0
Effluent BOD ₅ , mg/L	250	120	240	140
AERATED CELL NO.3				
Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	250	120	240	140
Cell Volume, m ³	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	21	10	18	9
BOD ₅ Loading, kg/m ³ /d	0.0118	0.0118	0.0158	0.0154
Effluent BOD, mg/L	82.03	49.13	75.88	80.92
BOD Removed, kg/d	241.55	181.34	205.44	237.24
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	507	402	520	498
Approx. Air Flow Required at 4% oxygen	808	481	743	597
Actual Available Air Flow, L/s (max)	480	480	480	480
AERATED CELL NO.4A				
Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	82.03	49.13	75.88	80.92
Cell Volume, m ³	34500	34500	34500	34500
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	27	13	19	12
BOD ₅ Loading, kg/m ³ /d	0.002	0.004	0.004	0.005
Effluent BOD, mg/L	12.84	17.41	20.32	23.07
BOD Removed, kg/d	83.20	85.88	99.98	113.84
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, kg/d	132.72	179.88	208.97	238.44
Approx. Air Flow Required at 4% oxygen	159.02	215.54	251.58	285.69
CHLORINE CONTACT TANK				
Volume, m ³	52	52	52	52
Hydraulic Retention Time, min	58	28	42	25
SETTLING CELL 4B				
Assumed water temperature, C	3.5	3.5	3.5	3.5
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	12.84	17.41	20.32	23.07
Cell Volume, m ³	34500	34500	34500	34500
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	26.8	12.8	19.2	11.5
BOD ₅ Loading, kg/m ³ /d	0.0005	0.0014	0.0011	0.0020
Effluent BOD, mg/L	4.43	9.14	8.82	12.72
BOD Removed, kg/d	10.81	22.31	21.05	31.05
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	22.70	46.86	44.20	65.21
Approx. Air Flow Required at 4% oxygen	27.20	56.14	52.98	78.13
POLISHING CELL 6				
Assumed water temperature, C	3.5	3.5	3.5	3.5
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	4.43	9.14	8.82	12.72
Cell Volume, m ³	8200	8200	8200	8200
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	4.8	2.3	3.4	2.1
BOD ₅ Loading, kg/m ³ /d	0.0009	0.0040	0.0025	0.0062
Effluent BOD, mg/L	3.30	7.86	6.93	11.10
BOD Removed, kg/d	1.43	3.45	3.04	4.87
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	3.04	7.24	6.39	10.22
Approx. Air Flow Required at 4% oxygen	3.64	8.68	7.65	12.25

FORT ST. JAMES WWTP
JOB NO. 330.1
DESIGN CONDITIONS: WINTER

Anaerobic Lagoon Converted to Aerobic

$K = 0.276$

CURRENT CONDITIONS

20 YEAR DESIGN

INFLUENT PARAMETERS	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Condition
Daily Flow, m ³ /d	1285	2700	1800	3000
Wastewater Temperature, C	10	10	10	10
BOD ₅ , mg/L	250	120	240	140
Assumed Theta Coefficient	1.088	1.088	1.088	1.088
Assumed KI Coefficient	0.276	0.276	0.276	0.276

AEROBIC CELL 1A - (PREVIOUSLY ANAEROBIC CELL NO. 1)

Assumed water temperature, C	7	8	8	8
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
K value at design temp	0.09	0.10	0.10	0.10
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.09	0.09	0.12	0.12
BOD Loading, lb/1000 cu. ft./d	6.51	5.56	7.41	7.20
Effluent BOD ₅	197	105	199	125

ANAEROBIC CELL NO. 2B - (PREVIOUSLY ANAEROBIC CELL NO. 2)

Assumed water temperature, C	8	7	7	7
Influent BOD ₅ , mg/L	197	105	199	125
Cell Volume, m ³	3640	3640	3640	3640
K value at design temperature	0.09	0.09	0.09	0.09
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0	0	0	0
BOD Loading, lb/1000 cu.ft./d	4.35	4.58	6.13	6.40
Effluent BOD ₅ , mg/L	158	94	167	112

AERATED CELL NO. 3

Assumed water temperature, C	5	5.5	5.5	5.5
K (at design temperature)	0.08	0.08	0.08	0.08
Influent BOD, mg/L	158	94	167	112
Cell Volume, m ³	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	21	10	15	9
BOD ₅ Loading, kg/m ³ /d	0.0074	0.0092	0.0110	0.0123
Effluent BOD, mg/L	59	51	74	63
BOD Removed, kg/d	128	116	168	145
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	269	243	352	304
Approx. Air Flow Required at 4% oxygen tra	322	291	422	364
Actual Available Air Flow, L/s (max)	490	480	480	480
Additional Aeration Required? (Yes/No)	No	No	No	No

Note: If additional aeration is noted required, existing effluent quality may be compromised.

SETTLING CELL NO. 4

Assumed water temperature, C	3.5	3.5	3.5	3.5
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	59	51	74	63
Cell Volume, m ³	69000	69000	69000	69000
Cell Depth, m	4	4	4	4
Hydraulic Retention Time, days	54	28	38	23
BOD ₅ Loading, kg/m ³ /d	0.001	0.002	0.002	0.003
Effluent BOD, mg/L	12	18	20	24
BOD Removed, kg/d	60	88	97	118
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, kg/d	125.16	185.18	203.46	247.76
Approx. Air Flow Required at 4% oxygen tra	149.98	221.87	243.77	298.85
Actual Available Air Flow, L/s (Max)	78.00	78.00	76.00	78.00
Additional Aeration Required? (Yes/No)	Yes	Yes	Yes	Yes

Note: If additional aeration is noted required, existing effluent quality may be compromised.

CHLORINE CONTACT TANK

Volume, m ³	52	52	52	52
Hydraulic Retention Time, min	58	25	42	25

AERATED POLISHING CELL NO. 5

Assumed water temperature, C	3	3	3	3
K (at design temperature)	0.07	0.07	0.07	0.07
Influent BOD, mg/L	12.21	18.06	19.88	24.17
Cell Volume, m ³	6200	6200	6200	6200
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	4.8	2.3	3.4	2.1
BOD ₅ Loading, kg/m ³ /d	0.0025	0.0079	0.0058	0.0117
Effluent BOD, mg/L	9.2	15.6	18.1	21.2
BOD Removed, kg/d	3.87	6.58	6.77	8.92
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	8.13	13.81	14.22	18.73
Approx. Air Flow Required at 4% oxygen tra	9.74	16.55	17.04	22.45
Actual Available air flow, L/s (Max)	104	104	104	104

FORT ST. JAMES WWTP
JOB NO. 330.1

DESIGN CONDITIONS: SUMMER

Anaerobic Lagoons Converted to Aerobic
K=0.5

	CURRENT CONDITIONS		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Conditions
INFLUENT PARAMETERS				
Daily Flow, m ³ /d	1285	2700	1800	3000
Wastewater Temperature, C	12	12	12	12
BOD ₅ , mg/L	250	120	230	140
Assumed Theta Coefficient	1.086	1.086	1.086	1.086
Assumed KI Coefficient	0.5	0.5	0.5	0.5

AEROBIC CELL 1A - (PREVIOUSLY ANAEROBIC CELL NO. 1)

Assumed water temperature, C	12	12	12	12
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
K value at design temp	0.26	0.26	0.26	0.26
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.09	0.09	0.11	0.12
BOD Loading, lb/1000 cu. ft./d	5.51	5.58	7.10	7.20
Effluent BOD ₅	144	89	151	107

ANAEROBIC CELL NO. 2B - (PREVIOUSLY ANAEROBIC CELL NO. 2)

Assumed water temperature, C	12	12	12	12
Influent BOD ₅ , mg/L	144	89	151	107
Cell Volume, m ³	3640	3640	3640	3640
K value at design temperature	0.26	0.26	0.26	0.26
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0	0	0	0
BOD Loading, lb/1000 cu ft./d	3.18	4.12	4.66	5.48
Effluent BOD ₅ , mg/L	83	66	99	81

AERATED CELL NO. 3

Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.26	0.26	0.26	0.26
Influent BOD, mg/L	83	66	99	81
Cell Volume, m ³	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	21	10	15	9
BOD ₅ Loading, kg/m ³ /d	0.0039	0.0065	0.0085	0.0089
Effluent BOD, mg/L	13	18	20	24
BOD Removed, kg/d	91	129	142	171
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	190	271	299	359
Approx. Air Flow Required at 4%	228	324	358	430
Actual Available Air Flow, L/s (m)	480	480	480	480
Additional Aeration Required ? (Y No)	No	No	No	No

Note: If additional aeration is noted required, existing effluent quality may be compromised.

SETTLING CELL NO. 4

Assumed water temperature, C	12.00	12.00	12.00	
K (at design temperature)	0.26	0.26	0.26	0.10
Influent BOD, mg/L	13	18	20	24
Cell Volume, m ³	69000	69000	69000	69000
Hydraulic Retention Time, days	54	26	38	23
Cell Depth, m	4	4	4	4
BOD ₅ Loading, kg/m ³ /d	0.000	0.001	0.001	0.001
Effluent BOD, mg/L	1	2	2	8
BOD Removed, kg/d	15	43	33	50
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, k	32.32	89.96	89.24	104.98
Approx. Air Flow Required at 4%	38.72	107.78	82.96	125.78
Actual Available Air Flow, L/s (M)	78.00	78.00	78.00	78.00
Additional Aeration Required ? (Y No)	No	Yes	Yes	Yes

Note: If additional aeration is noted required, existing effluent quality may be compromised.

AERATED POLISHING CELL NO. 5

Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.26	0.26	0.26	0.26
Influent BOD, mg/L	0.86	2.40	1.85	7.55
Cell Volume, m ³	6200	6200	6200	6200
Cell Depth, m	3.65	3.65	3.65	3.65
BOD ₅ Loading, kg/m ³ /d	0.0002	0.0010	0.0005	0.0037
Effluent BOD, mg/L	0.4	1.5	1.0	4.8
BOD Removed, kg/d	0.62	2.42	1.57	7.88
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average	1.28	5.07	3.29	18.55
Approx. Air Flow Required at 4%	1.55	6.08	3.94	19.83
Actual Available air flow, L/s (Ma)	104	104	104	104
Additional Aeration Required ? (Y No)	No	No	No	No

Note: If additional aeration is noted required, existing effluent quality may be compromised.

FORT ST. JAMES WWTP
JOB NO. 330.1
DESIGN CONDITIONS: SUMMER

Anaerobic Lagoons Converted to Aerobic
K=0.276

	CURRENT CONDITIONS		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Condition
INFLUENT PARAMETERS				
Daily Flow, m ³ /d	1285	2700	1800	3000
Wastewater Temperature, C	12	12	12	12
BOD ₅ , mg/L	250	120	230	140
Assumed Theta Coefficient	1.086	1.086	1.086	1.086
Assumed K _t Coefficient	0.276	0.276	0.276	0.276

AEROBIC CELL 1A - (PREVIOUSLY ANAEROBIC CELL NO. 1)

Assumed water temperature, C	12	12	12	12
Cell Volume, m ³	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
K value at design temp	0.14	0.14	0.14	0.14
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0.09	0.09	0.11	0.12
BOD Loading, lb/1000 cu. ft./d	5.51	5.56	7.10	7.20
Effluent BOD ₅	178	101	179	119

ANAEROBIC CELL NO. 2B - (PREVIOUSLY ANAEROBIC CELL NO. 2)

Assumed water temperature, C	12	12	12	12
Influent BOD ₅ , mg/L	178	101	179	119
Cell Volume, m ³	3640	3640	3640	3640
K value at design temperature	0.14	0.14	0.14	0.14
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m ³ /d	0	0	0	0
BOD Loading, lb/1000 cu. ft./d	3.92	4.66	5.51	6.14
Effluent BOD ₅ , mg/L	127	64	139	102

AERATED CELL NO. 3

Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	127	84	139	102
Cell Volume, m ³	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	21	10	15	9
BOD ₅ Loading, kg/m ³ /d	0.0060	0.0083	0.0091	0.0112
Effluent BOD, mg/L	31	35	44	44
BOD Removed, kg/d	123	135	171	172
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	257	283	358	362
Approx. Air Flow Required at 4% oxygen tr	308	339	429	434
Actual Available Air Flow, L/s (max)	480	480	480	480
Additional Aeration Required ? (Yes/No)	No	No	No	No

Note: If additional aeration is noted required, existing effluent quality may be compromised.

SETTLING CELL NO. 4

Assumed water temperature, C	12.00	12.00	12.00	
K (at design temperature)	0.14	0.14	0.14	0.06
Influent BOD, mg/L	31	35	44	44
Cell Volume, m ³	69000	69000	69000	69000
Hydraulic Retention Time, days	64	28	38	23
Cell Depth, m	4	4	4	4
BOD ₅ Loading, kg/m ³ /d	0.001	0.001	0.001	0.002
Effluent BOD, mg/L	4	7	7	20
BOD Removed, kg/d	36	73	67	73
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, kg/d	75.10	153.78	139.95	153.22
Approx. Air Flow Required at 4% oxygen tr	89.88	184.25	167.68	183.57
Actual Available Air Flow, L/s (Max)	76.00	76.00	76.00	76.00
Additional Aeration Required ? (Yes/No)	No	Yes	Yes	Yes

Note: If additional aeration is noted required, existing effluent quality may be compromised.

AERATED POLISHING CELL NO. 5

Assumed water temperature, C	12	12	12	12
K (at design temperature)	0.14	0.14	0.14	0.14
Influent BOD, mg/L	3.63	7.44	8.77	19.95
Cell Volume, m ³	6200	6200	6200	6200
Cell Depth, m	3.65	3.65	3.65	3.65
BOD ₅ Loading, kg/m ³ /d	0.0008	0.0032	0.0020	0.0097
Effluent BOD, mg/L	2.2	5.6	4.5	15.4
BOD Removed, kg/d	1.90	4.96	4.02	13.63
Oxygen to BOD ₅ ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	4.00	10.41	8.43	28.62
Approx. Air Flow Required at 4% oxygen tr	4.79	12.47	10.10	34.29
Actual Available air flow, L/s (Max)	104	104	104	104

FORT ST. JAMES WWTP
JOB NO. 330.1
DESIGN CONDITIONS: WINTER

Anaerobic Lagoons Converted to Aerobic
K=0.5

	CURRENT DAY		20 YEAR DESIGN	
	Average Day Conditions	Peak Day Conditions	Average Day Conditions	Peak Day Condition
INFLUENT PARAMETERS				
Daily Flow, m3/d	1285	2700	1800	3000
Wastewater Temperature, C	10	10	10	10
BOD5, mg/L	250	120	230	140
Assumed Theta Coefficient	1.088	1.088	1.088	1.088
Assumed K1 Coefficient	0.5	0.5	0.5	0.5

AEROBIC CELL 1A - (PREVIOUSLY ANAEROBIC CELL NO. 1)

Assumed water temperature, C	7	8	8	8
Cell Volume, m3	3640	3640	3640	3640
Cell Depth, m	3.65	3.65	3.65	3.65
K value at design temp	0.17	0.19	0.19	0.19
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m3/d	0.09	0.09	0.11	0.12
BOD Loading, lb/1000 cu. ft/d	5.51	5.56	7.10	7.20
Effluent BOD5	168	96	167	114

ANAEROBIC CELL NO. 2B - (PREVIOUSLY ANAEROBIC CELL NO.2)

Assumed water temperature, C	8	7	7	7
Influent BOD5, mg/L	168	96	167	114
Cell Volume, m3	3640	3640	3640	3640
K value at design temperature	0.16	0.17	0.17	0.17
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	2.83	1.35	2.02	1.21
BOD Loading, kg/m3/d	0.06	0.07	0.08	0.09
BOD Loading, lb/1000 cu. ft/d	3.71	4.44	5.18	5.88
Effluent BOD5, mg/L	116	78	124	95

AERATED CELL NO.3

Assumed water temperature, C	5	5.5	5.5	5.5
K (at design temperature)	0.15	0.15	0.15	0.15
Influent BOD, mg/L	116	78	124	95
Cell Volume, m3	27300	27300	27300	27300
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	21	10	15	9
BOD5 Loading, kg/m3/d	0.0055	0.0077	0.0082	0.0104
Effluent BOD, mg/L	28	31	38	40
BOD Removed, kg/d	113	127	158	164
Oxygen to BOD5 ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d	237	267	327	345
Approx. Air Flow Required at 4% oxygen tran	284	320	392	414
Actual Available Air Flow, L/s (Max)	480	480	480	480
Additional Aeration Required ? (Yes/No)	No	No	No	No

Note: If additional aeration is noted required, existing effluent quality may be compromised.

AERATED CELL NO.4

Assumed water temperature, C	3.5	3.5	3.5	3.5
K (at design temperature)	0.13	0.13	0.13	0.13
Influent BOD, mg/L	29	31	38	40
Cell Volume, m3	69000	69000	69000	69000
Cell Depth, m	4	4	4	4
Hydraulic Retention Time, days	54	26	38	23
BOD5 Loading, kg/m3/d	0.001	0.001	0.001	0.002
Effluent BOD, mg/L	4	7	8	10
BOD Removed, kg/d	32	64	56	89
Oxygen to BOD5 ratio	2.1	2.1	2.1	2.1
Oxygen required, Average Day, kg/d	67.21	133.97	118.49	187.35
Approx. Air Flow Required at 4% oxygen tran	80.53	160.51	141.98	224.47
Actual Available Air Flow, L/s (Max)	76.00	76.00	76.00	76.00
Additional Aeration Required ? (Yes/No)	Yes	Yes	Yes	Yes

Note: If additional aeration is noted required, existing effluent quality may be compromised.

Hydraulic Retention Time, min	0	0	0	0
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AERATED POLISHING CELL NO.5

Assumed water temperature, C	3	3	3	3
K (at design temperature)	0.12	0.12	0.12	0.12
Influent BOD, mg/L	3.62	7.21	8.38	10.08
Cell Volume, m3	6200	6200	6200	6200
Cell Depth, m	3.65	3.65	3.65	3.65
Hydraulic Retention Time, days	4.8	2.3	3.4	2.1
BOD5 Loading, kg/m3/d	0.0008	0.0031	0.0019	0.0049
Effluent BOD, mg/L	2.3	5.6	4.5	8.0
BOD Removed, kg/d	1.73	4.29	3.42	6.13
Oxygen to BOD5 ratio	2.1	2.1	2.1	2.1
Oxygen required, kg/d, Average Day	3.64	9.01	7.18	12.88
Approx. Air Flow Required at 4% oxygen tran	4.38	10.79	8.60	15.43
Actual Available air flow, L/s (Max)	104	104	104	104

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON ASSESSMENT
PHASE I**

APPENDIX F

Supplier Information



ENVIRONMENTAL DYNAMICS INC.

5601 Paris Rd.
TELEPHONE (573) 474-9456

Columbia, MO 65202-9399
FAX (573) 474-6988

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to Information Act*

*Communiqué en vertu de la
Loi sur l'accès à
l'information*

June 25, 1999

Mr. Ho-Ping Wei
DAYTON & KNIGHT LTD
612 Clyde Avenue
West Vancouver, BC V7V 3N9
CANADA

RE: Fort St. James Aerated Lagoon
EDI FlexAir™ Aeration-Mixing System

Dear Mr. Wei:

Environmental Dynamics, Incorporated (EDI) appreciates the opportunity to review and make preliminary design recommendations regarding the aerated lagoon application at Fort St. James, British Columbia. EDI has been designing and supplying aerated lagoon aeration systems since 1975 and has considerable experience as evidenced by over 700 lagoon installations, several of which are in BC. In addition to a detailed review of the Fort St. James project and the EDI FlexAir aeration system, information regarding the differences in operation and maintenance between a fine bubble system and a static tube coarse bubble aeration system is provided for your reference.

Process Review

EDI has reviewed the process information you forwarded. One of the most important calculations for a multi-cell aerated lagoon system is the estimate of BOD removal efficiencies from one pond to the next. EDI uses the US EPA rationale methodology to quantify both summer and winter BOD removal on a cell by cell basis. Included is EDI's computerized print out of the partial mix aerated lagoon design based on the two alternatives you indicated in your letter (these documents have been labeled and highlighted). Page 1 details the design assumptions, design values utilized and the design conditions for this application. Page 2 details the removal efficiencies and estimated performance of the two alternatives based on a winter and summer wastewater temperature of 4 and 10°C respectively. EDI analyzes both

Mr. Ho-Ping Wei
June 25, 1999
Page 2

temperature conditions and then allocates airflow and corresponding diffuser assemblies based on the controlling conditions for each cell.

Based on the enclosed modeling information for **Alternative 2**, EDI would recommend providing approximately 69% of the oxygen capacity required into the first Cell, 29% of the oxygen capacity into the second Cell and 4% of the oxygen capacity into the polishing cell. EDI acknowledges that this is greater than 100%, however it is the equipment capacity for peak airflow conditions that EDI provides. The peak demand for each cell does not happen simultaneously (summer vs. winter) but equipment is allocated into the cells to accommodate the peak loading conditions. I will not repeat the detailed explanation for **Alternative 3** as the procedures are identical.

The EDI modeling information enclosed predicts a final effluent quality of less than 22 mg/l soluble BOD. Please note that the total BOD in the effluent will be a function of the suspended solids and may be higher than the 22 mg/l referenced.

Aeration System Sizing

EDI next reviewed the total airflow requirements based on the BOD loading indicated in your letter. The design criteria employed for the aeration system design is as follows. The specific calculations used for the design of the aeration system as operated under *Alternative 2* are summarized in the attached design brief #DB - P062499a. For *Alternative 3* the anaerobic ponds have been deleted and the loading to the system is 200 mg/l. Design brief P062499b details the design assumptions for this option.

- Design flowrate = 0.53 MGD
- Influent organic loading as measured by BOD = 200 mg/l.
- 10% reduction in BOD in pretreatment operations (Alternative 2 only)
- Alpha = 0.8. Alpha is the ratio of oxygen transfer rate in field conditions versus clean water.
- Beta = 0.95. Beta is the ratio of solubility of oxygen in field conditions versus clean water.
- Site elevation = 2000 feet.

Mr. Ho-Ping Wei
June 25, 1999
Page 3

- Minimum dissolved oxygen to be maintained in the system of 2 mg/l.
- Winter and summer wastewater temperature of 4 and 10°C, respectively.
- 100% removal of BOD. This is a conservative value. EDI recommends using this value since the full applied organic load may be exerted in the facility under specific conditions.
- 2 pounds of oxygen per pound of BOD removed. This is a conservative factor and includes sufficient oxygen for complete stabilization of BOD and resulting biomass, and a nominal amount of nitrification.

For Alternative 2 the design AOR requirement for the system is estimated at 66.79 pounds per hour. For Alternative 3 the design AOR requirement for the system is estimated at 74.21 pounds per hour.

FlexAir Diffuser Assembly

EDI is recommending the FlexAir Magnum diffuser assembly for this application. It is a tubular, perforated, elastomeric diffuser product that has been successfully applied to numerous aerated lagoon applications with excellent results.

The FlexAir Magnum diffuser assembly has been designed with a triple check valve action feature. This design feature precludes solids from entering the piping system during a shutdown by the following 1) the membrane slits close when air supply is interrupted 2) during shut down conditions, the FlexAir membrane contracts and closes around the full diameter membrane support tube and 3) the section of the membrane over the PVC support tube orifices is solid without perforations to provide positive backflow prevention.

Another attractive feature of the FlexAir Magnum diffuser product line is that the diffuser assemblies can be constructed with different numbers of diffuser tubes and efficiently allocated into individual cells based on the design airflow requirements. For example, on the Fort St. James application the airflow splits per cell indicate the vast majority of the airflow should be exerted in the primary cells. EDI has elected to utilize three different types of diffuser assemblies for this application; the FlexAir Magnum 44F, the

Mr. Ho-Ping Wei
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Page 4

FlexAir Magnum 42F and the FlexAir Magnum 21F. The only difference in the assemblies is the number of diffuser tubes for each type and therefore the corresponding airflow capacity. The FlexAir 44F diffuser contains four 1/2 meter diffuser tubes providing a combined active, perforated surface area of 5.08 square feet per assembly. The normal operating airflow range of the 44F assembly is 0-32 scfm (0-8 scfm per 1/2 meter diffuser tube). The maximum non-continuous peak airflow is 40 scfm per assembly.

The FlexAir 42F diffuser product contains two 1/2 meter diffuser membranes providing a combined active, perforated surface area of 2.54 square feet. Normal operating airflow range for the 42F assembly is 0-16 scfm with a peak airflow capacity (short term) of 20 scfm per assembly.

The FlexAir 21F diffuser product contains one 1/2 meter diffuser membrane providing an active, perforated surface area of 1.27 square feet. Normal operating airflow range for the 21F assembly is 0-8 scfm with a peak airflow capacity (short term) of 10 scfm per assembly.

Typical detail drawings of the diffuser products recommended is included for your reference.

For the Fort St. James application EDI, is estimating an oxygen transfer efficiency (SOTE) of 17% when operated at a normal airflow of 4 scfm per diffuser sleeve and at a design submergence depth of 11.47 feet. Design brief line 30 indicates a total of 165 tubes would be required at a total airflow of 665 scfm. Estimated discharge pressure for this design condition is approximately 5.84 psig. For Alternative 3 a total of 190 tubes would be required at a total airflow of 762 scfm. Estimated discharge pressure for this design condition is approximately 5.84 psig.

EDI does not have yard piping layout and sizes to model the hydraulic conditions so the estimates above should be used accordingly as estimates. These should however allow you to review the existing blower combinations and determine the estimated operating power requirements.

Mr. Ho-Ping Wei
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Page 5

Utilizing the EPA model, EDI has allocated the diffuser assemblies as shown on the enclosed layout drawings.

Comparison of FlexAir Aeration System with Static Tube System

EDI notes that the aeration system design indicated in your letter includes a condition for the supply of additional static tube, coarse bubble aerators. EDI experience with this type of aerator would suggest several design and operational limitations with this type of diffuser product. Principle among the design limitations are oxygen transfer efficiency and mixing capability when compared to an EDI FlexAir, fine bubble, aeration-mixing system. For your reference, a general list of design features of the EDI FlexAir system and static tube system is included below. Following this listing, a review of the two preliminary systems for the Fort St. James application is discussed.

EDI FlexAir System	Static Tube System
Fine bubble; high transfer efficiency. Typical 5-7 # O ₂ /Hp-hr SAE Smaller, less horsepower, blowers required.	Coarse bubble, low oxygen transfer. Typical 2.5 # O ₂ /Hp-hr SAE Larger, higher horsepower blower units required.
Retrievable for maintenance if required.	Permanent mounting, drain basin if maintenance required.
System designed for expansion/contraction using individual airlines to units and brackets on laterals.	Units mounted directly to piping. Expansion/contraction not accommodated at unit nor piping.
Fine bubbles provide superior liquid pumpage due to large surface area and unrestricted mixing area.	Coarse bubbles inefficient liquid pumpage due to restricted mixing tube.
Multiple diffuser assemblies fed off common lateral, reduced installed piping distribution of assemblies, numerous valves.	Diffusers must be mounted to lateral runs. Numerous lateral runs to obtain and valves.

Oxygen Transfer versus Mixing; Fine Bubble vs. Coarse Bubble

Mr. Wei, a typical argument that arises with respect to fine and coarse bubble aeration systems in partial mix lagoons is that a coarse bubble

Mr. Ho-Ping Wei
June 25, 1999
Page 6

aerator (static tube) is better at mixing than is a fine bubble aerator. EDI experience, would suggest otherwise. In a partial mix aerated pond, aeration serves only to provide oxygen transfer adequate to oxidize the BOD entering the pond. Certainly some mixing does occur to keep solids in suspension, but anaerobic degradation of the organic matter that settles on the lagoon floor does occur. As long as the mixing intensity is adequate to distribute oxygen in the lagoon, a violent surface mixing pattern serves no benefit. In fact, there can be significant amounts of wasted energy to provide visual mixing intensity while not providing for spatial distribution of oxygen in the liquid.

EDI has several case histories relating to insitu dissolved oxygen profiles of EDI fine bubble aeration systems in partial mix lagoons. In each case, the DO profiles are excellent both horizontally in the liquid as well as vertically. We would be pleased to forward some of the reports if that would be beneficial.

With regard to field studies of oxygen transfer of EDI fine bubble versus coarse bubble (static tubes) a recent project indicated a field (process water) OTE of 5% for static tubes versus 12.4% for EDI FlexAir fine bubble. This was an independent certified study by a Wisconsin oxygen transfer specialist.

Maintenance Requirements

One of the biggest misconceptions with fine bubble systems compared to static tube, coarse bubble systems is maintenance. Often you will hear that fine bubble systems require attention and that coarse bubble systems are maintenance free. This is simply not the case. EDI experience would suggest maintenance for any type of system is job specific. EDI has several aerated lagoon applications that have performed for three to five years without any routine maintenance required. If maintenance is required for the FlexAir system it has generally been related to the installation procedure and damage at the time of installation. For reference, the price for a 1/2 meter replacement membrane is \$21.00 each (including membrane clamps).

Mentioned earlier was the ability of the FlexAir Magnum diffuser product to preclude solids entry into the aeration piping in the event of a system

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shutdown. EDI has experience with several static tube systems that accumulated significant amounts of solids in the aeration piping due to system shutdowns. This solids accumulation can lead to restriction of the flow area, increased system backpressure and reduce airflow distribution patterns along a lateral. Since the system is not retrievable, this condition must be endured by the Client.

Installation Cost Estimate

For reference, the approximate man hours to install the FlexAir system is 2.5 man hours per diffuser unit.

Budgetary Pricing

You had requested that each lagoon for the two Alternatives be priced individually. This information has been presented below. Please note that our scope of supply begins at the toe of the slope of lagoon and does not include any yard piping nor valves upstream of this flange connection. A typical section view showing the beginning of our scope of supply has been included.

Alternative 2

Cell 3	\$19,500.00 US
Future Aerated Cell 4	\$10,500.00 US
<u>Polishing Cell</u>	<u>\$ 4,500.00 US</u>
Total	\$34,500.00 US

Alternative 3

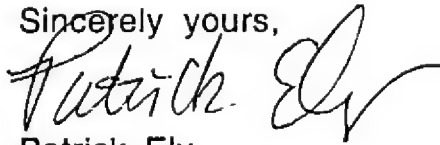
Cell 1	\$ 6,500.00 US
Cell 2	\$ 6,000.00 US
Cell 3	\$13,500.00 US
<u>Polishing Cell</u>	<u>\$ 4,500.00 US</u>
Total	\$30,500.00 US

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Page 8

Please use an estimated freight price of \$3,000.00 US and an estimate for two trips, two days of field supervision service at \$3,500.00 US.

Mr. Wei, EDI is pleased to be provided an opportunity to support your design efforts on this project. If after review you should have any questions, please do not hesitate to give me a call.

Sincerely yours,



Patrick Ely
District Manager

Enclosures

cc: John Balderston
NOVATECH EQUIPMENT SALES

Environmental Dynamics, Inc.
5601 Paris Road
Columbia, MO 65202
573-474-9456

EDI Aerated Stabilization Basin
Process Modelling Design

Municipal Wastewater Stabilization Ponds
US EPA, Design Manual, October 1983

ALTERNATE 2

Partial Mix Aerated Pond Option

Project:

FT. ST. JAMES

Date:

24-Jun-99

Design Assumptions

Application:

Aerated Lagoon

<u>Parameter</u>	<u>Designation</u>	<u>Design Value</u>	<u>Units</u>
BOD Influent	Co	180 ppm	
BOD Effluent	Cn	20 ppm	
No. of Ponds	n	2	
Reaction Rate	Kpm20	0.276 1/day	
Temp Coef	TC	1.036	
Wastewater Temperature			
Summer	Ts	10 C	
Winter	Tw	4 C	

Design Values

Ksummer	0.194 1/day
Kwinter	0.157 1/day

Design Conditions

No. of Ponds	2
Min Detention Time	25.52 days

**EDI Aerated Stabilization Basin
Process Modelling Design**

ALT 2

Process Modelling Calculations

Estimated Performance

Cell No. 1 Detention Time	8.95 days
Cell No. 2 Detention Time	11.315 days
Cell No. 3 Detention Time	2.02 days
Cell No. 4 Detention Time	0 days
Cell No. 5 Detention Time	0 days
Cell No. 6 Detention Time	0 days

<u>Parameter</u>	<u>Winter Conditions</u>		<u>Summer Conditions</u>	
	<u>BOD, ppm</u>	<u>% Removal</u>	<u>BOD, ppm</u>	<u>% Removal</u>
Cell No. 1 Influent	180		180	
BOD Removed Cell No. 1	105	0.58	114	0.63
Cell No. 1 Effluent	75		66	
Cell No. 2 Influent	75		66	
BOD Removed Cell No. 2	48	0.64	45	0.69
Cell No. 2 Effluent	27		21	
Cell No. 3 Influent	27		21	
BOD Removed Cell No. 3	6	0.24	6	0.28
Cell No. 3 Effluent	21		15	
Cell No. 4 Influent	21		15	
BOD Removed Cell No. 4	0	0.00	0	0.00
Cell No. 4 Effluent	21		15	
Cell No. 5 Influent	21		15	
BOD Removed Cell No. 5	0	0.00	0	0.00
Cell No. 5 Effluent	21		15	
Cell No. 6 Influent	21		15	
BOD Removed Cell No. 6	0	0.00	0	0.00
Cell No. 6 Effluent	21		15	

Aeration Taper Calculations

	Max BOD Red ppm	Air Allocation		
		Winter	Summer	Max
Cell One	114	64%	69%	69%
Cell Two	45	29%	27%	29%
Cell Three	6	4%	4%	4%
Cell Four	0	0%	0%	0%
Cell Five	0	0%	0%	0%
Cell Six	0	0%	0%	0%
Total	165	97%	100%	102%

(18) Air supply for each EDI FlexAir™ diffuser tube	4.00 scfm	0.113 m ³ /min
(19) Active surface area per diffuser tube	183 in ²	1181 cm ²
(20) Air release depth of diffusers	11.47 ft	3.50 meters
(21) Tank floor surface area	-- ft ²	-- meters ²
(22) Diffuser Density: (AT/AD) ratio [floor area/(# diffusers x active diffuser area)]	--	--
(23) % Oxygen transfer, SOTE	17.0 %	17.0 %
(24) Lbs oxygen per hour per tube, SOR	0.704 lb O ₂ /hr/unit	0.320 kg O ₂ /hr/unit
(25) Winter surface saturation, Csmt	13.11 mg/l	13.11 mg/l
Summer surface saturation, Csmt	11.29 mg/l	11.29 mg/l
(26) Effective depth correction factor	0.4	0.4
(27) Standard condition aerated O ₂ saturation in the tank, $C^*20=9.09*(29.92+0.8828*Item20*Item 26)/29.92$	10.32 mg/l	10.32 mg/l
(28) Enter Theta value=	1.024	1.024
(29) $AOR/SOR=ALPHA[BETA(C^*20)(Csmt/9.09)(Psite/Psc)-$ $(Item 9)](THETA)^{(Item 10-20)/(C^*20)}$ Winter AOR/SOR	0.5898	0.5898
Summer AOR/SOR	0.5698	0.5698
(30) Number of FlexAir™ tubes required for oxygen demand (Item 17) / [(Item 24) x (Item 29)]	166.40 tubes	166.40 tubes
(31) Air requirements for oxygenation (Item 18)x(Item 30)	665.59 scfm	18.850 m ³ /min
(32) Number of tubes for mixing and/or proper distribution	186 tubes	186 tubes
(33) Airflow per tube (mixing only)	1.00 scfm	0.028 m ³ /min
(34) Air requirements for mixing (Item 32) x (Item 33)	186.00 scfm	5.268 m ³ /min
(35) Design diffuser air fluxrate based on oxygenation or mixing requirements; use the larger.	3.15 scfm per ft ²	0.96 m ³ /min/m ²
(36) Estimated system operating pressure:		
(a) Static liquid head	11.47 ft	3.50 meters
(b) Pressure loss at blower building and header	0.50 ft	0.15 meters
(c) Pressure loss lateral piping	0.25 ft	0.08 meters
(d) Pressure loss through FlexAir™ tube	1.25 ft	0.38 meters
(f) Normal compressor operating pressure (a+b+c+d)	13.47 ft	4.11 meters
(37) Normal operating pressure	5.84 psig	402.76 millibar
(38) Design over-pressure APPROXIMATE	1.00 psig	68.95 millibar
(39) Peak design pressure	6.84 psig	471.71 millibar

NOTES:

Environmental Dynamics, Inc.
5601 Paris Road
Columbia, MO 65202
573-474-9456

EDI Aerated Stabilization Basin
Process Modelling Design

Municipal Wastewater Stabilization Ponds
US EPA, Design Manual, October 1983

ALTERNATIVE 3

Partial Mix Aerated Pond Option

Project:

FT. ST. JAMES

Date:

24-Jun-99

Design Assumptions

Application:

Aerated Lagoon

<u>Parameter</u>	<u>Designation</u>	<u>Design Value</u>	<u>Units</u>
BOD Influent	Co	200	ppm
BOD Effluent	Cn	20	ppm

No. of Ponds	n	4
--------------	---	---

Reaction Rate	Kpm20	0.5	1/day
Temp Coef	TC	1.036	

Wastewater Temperature

Summer	Ts	10	C
Winter	Tw	4	C

Design Values

Ksummer	0.351	1/day
Kwinter	0.284	1/day

Design Conditions

No. of Ponds	4	
Min Detention Time	10.96	days

**EDI Aerated Stabilization Basin
Process Modelling Design**Process Modelling CalculationsEstimated Performance

Cell No. 1 Detention Time	1.19 days
Cell No. 2 Detention Time	1.19 days
Cell No. 3 Detention Time	8.95 days
Cell No. 4 Detention Time	2.02 days
Cell No. 5 Detention Time	0 days
Cell No. 6 Detention Time	0 days

<u>Parameter</u>	<u>Winter Conditions</u>		<u>Summer Conditions</u>	
	<u>BOD, ppm</u>	<u>% Removal</u>	<u>BOD, ppm</u>	<u>% Removal</u>
Cell No. 1 Influent	200		200	
BOD Removed Cell No. 1	51	0.25	59	0.29
Cell No. 1 Effluent	149		141	
Cell No. 2 Influent	149		141	
BOD Removed Cell No. 2	38	0.25	42	0.29
Cell No. 2 Effluent	112		100	
Cell No. 3 Influent	112		100	
BOD Removed Cell No. 3	80	0.72	75	0.76
Cell No. 3 Effluent	32		24	
Cell No. 4 Influent	32		24	
BOD Removed Cell No. 4	12	0.36	10	0.41
Cell No. 4 Effluent	20		14	
Cell No. 5 Influent	20		14	
BOD Removed Cell No. 5	0	0.00	0	0.00
Cell No. 5 Effluent	20		14	
Cell No. 6 Influent	20		14	
BOD Removed Cell No. 6	0	0.00	0	0.00
Cell No. 6 Effluent	20		14	

Aeration Taper Calculations

	Max BOD Red ppm	Air Allocation		
		Winter	Summer	Max
Cell One	59	27%	32%	32%
Cell Two	42	20%	22%	22%
Cell Three	75	43%	41%	43%
Cell Four	10	6%	5%	6%
Cell Five	0	0%	0%	0%
Cell Six	0	0%	0%	0%
Total	186	97%	100%	103%

Environmental Dynamics, Inc.
5601 Paris Rd.
Columbia, Missouri 65202
573-474-9456

EDI FlexAir™ AERATION SYSTEM FOR AEROBIC TREATMENT

Project:
FORT ST. JAMES, BC

Consulting Engineer:
Mr. Ho-ping Wei
DAYTON & KNIGHT

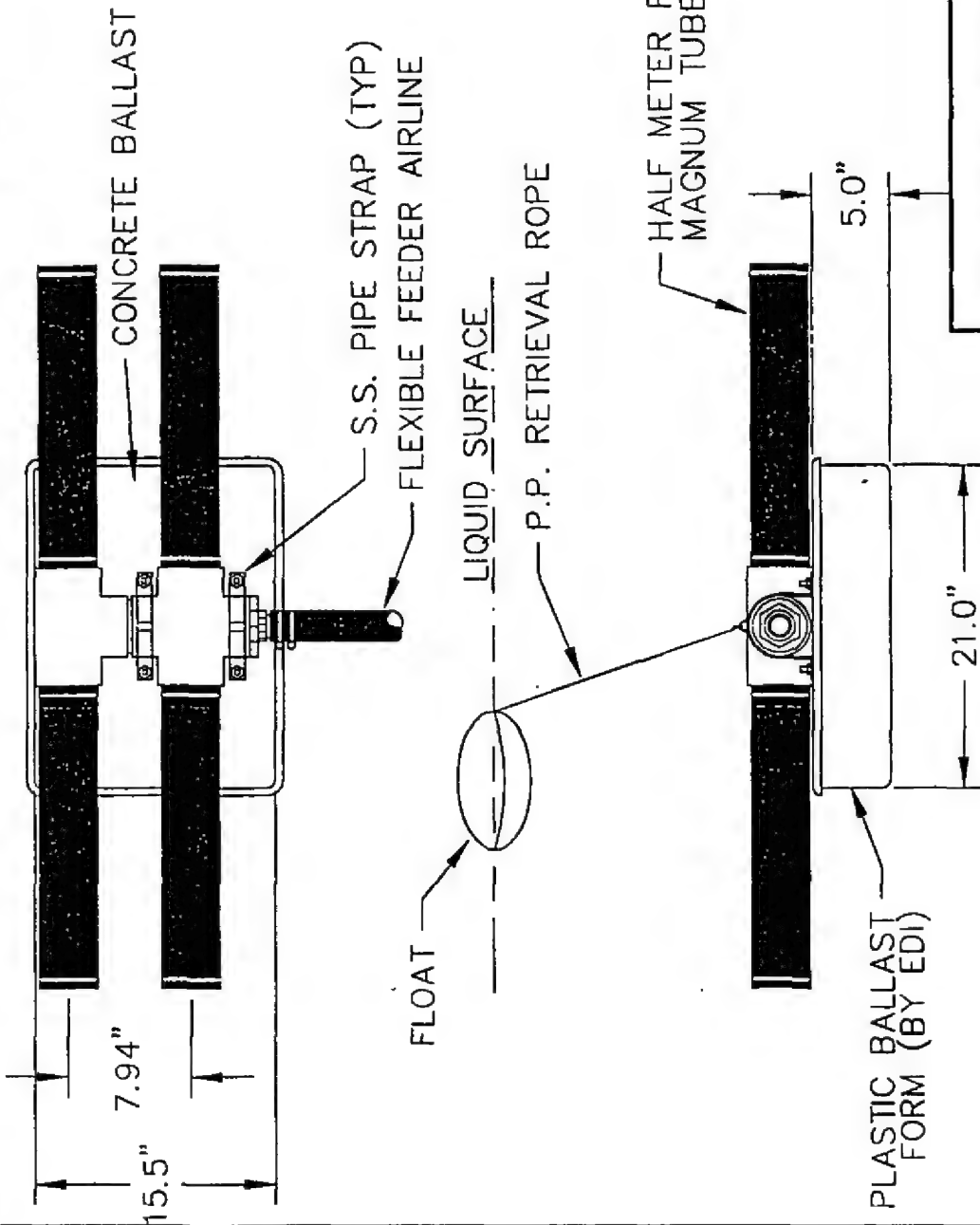
ALT 3

DESIGN CALCULATIONS

	English Units	Metric Units
(1) Type Waste and Process -		
(2) Design Flow	0.53 MGD	2020 m ³ /day
(3) BOD Raw Waste		
a) concentration	200.00 mg/l	200.00 mg/l
b) weight/day	890.53 lbs/day	403.94 kg/day
(4) Primary Treatment (% BOD Removal)	0.0 %	0.0 %
(5) % BOD for biological process (100% - Item 4)	100.0 %	100.0 %
(6) ALPHA = Ratio of oxygen transfer in waste to transfer in tap water	0.80 Alpha	0.80 Alpha
BETA = Ratio of solubility of oxygen in wastewater to solubility in tap water	0.95 Beta	0.95 Beta
(7) Site Elevation	2000.00 Feet	609.61 meters
(8) Operating ambient pressure, winter	13.64 psia	940.09 millibar
Operating ambient pressure, summer	13.66 psia	941.72 millibar
(9) Dissolved O2 level in the aeration basin	2.00 mg/l	2.00 mg/l
(10) Temperature of waste in aeration basin:		
Winter Temperature	39.20 °F	4.00 °C
Summer Temperature	50.00 °F	10.00 °C
(11) Design BOD removal	100.0 %	100.0 %
(12) Carbonaceous BOD(5) to the aeration basin (Item 3b) x (Item 5)	890.53 lbs/day	403.94 kg/day
(13) Oxygen per unit of carbonaceous BOD removed	2.00 lb/lb	2.00 kg/kg
(14) Carbonaceous oxygen requirements for aeration at field conditions (Item 11)x(Item 12)x(Item 13)	1781.05 lb O2/day	807.87 kg O2/day
(15) Ammonia to aeration basin		
a) concentration	0.00 mg/l	0.00 mg/l
b) weight/day	0.00 lb/day	0.00 kg/day
(16) Oxygen requirements for nitrification (Item 15b) x (4.6#O2/#NH4-N)	0.00 lb O2/day	0.00 kg O2/day
(17) Total oxygen requirements, AOR (Item 14 + Item 16) / 24	74.21 lb O2/hour	33.66 kg O2/hour

(18) Air supply for each EDI FlexAir™ diffuser tube	4.00 scfm	0.113 m ³ /min
(19) Active surface area per diffuser tube	183 in ²	1181 cm ²
(20) Air release depth of diffusers	0.00 ft	0.00 meters
(21) Tank floor surface area	-- ft ²	-- meters ²
(22) Diffuser Density: (AT/AD) ratio [floor area/(# diffusers x active diffuser area)]	--	--
(23) % Oxygen transfer, SOTE	17.0 %	17.0 %
(24) Lbs oxygen per hour per tube, SOR	0.704 lb O ₂ /hr/unit	0.320 kg O ₂ /hr/unit
(25) Winter surface saturation, Csmt	13.11 mg/l	13.11 mg/l
Summer surface saturation, Csmt	11.29 mg/l	11.29 mg/l
(26) Effective depth correction factor	0.4	0.4
(27) Standard condition aerated O ₂ saturation in the tank, $C^*20=9.09*(29.92+0.8828*Item20*Item 26)/29.92$	9.09 mg/l	9.09 mg/l
(28) Enter Theta value=	1.024	1.024
(29) AOR/SOR=ALPHA[BETA(C*20)(Csmt/9.09)(Psite/Psc)- (Item 9)](THETA)^(Item 10-20)/(C*20)		
Winter AOR/SOR	0.5754	0.5754
Summer AOR/SOR	0.5532	0.5532
(30) Number of FlexAir™ tubes required for oxygen demand (Item 17) / [(Item 24) x (Item 29)]	190.42 tubes	190.42 tubes
(31) Air requirements for oxygenation (Item 18)x(Item 30)	761.68 scfm	21.571 m ³ /min
(32) Number of tubes for mixing and/or proper distribution	216 tubes	216 tubes
(33) Airflow per tube (mixing only)	1.00 scfm	0.028 m ³ /min
(34) Air requirements for mixing (Item 32) x (Item 33)	216.00 scfm	6.117 m ³ /min
(35) Design diffuser air fluxrate based on oxygenation or mixing requirements; use the larger.	3.15 scfm per ft ²	0.96 m ³ /min/m ²
(36) Estimated system operating pressure:		
(a) Static liquid head	11.47 ft	3.50 meters
(b) Pressure loss at blower building and header	0.50 ft	0.15 meters
(c) Pressure loss lateral piping	0.25 ft	0.08 meters
(d) Pressure loss through FlexAir™ tube	1.25 ft	0.38 meters
(f) Normal compressor operating pressure (a+b+c+d)	13.47 ft	4.11 meters
(37) Normal operating pressure	5.84 psig	402.76 millibar
(38) Design over-pressure APPROXIMATE	1.00 psig	68.95 millibar
(39) Peak design pressure	6.84 psig	471.71 millibar

NOTES:



NOTES:

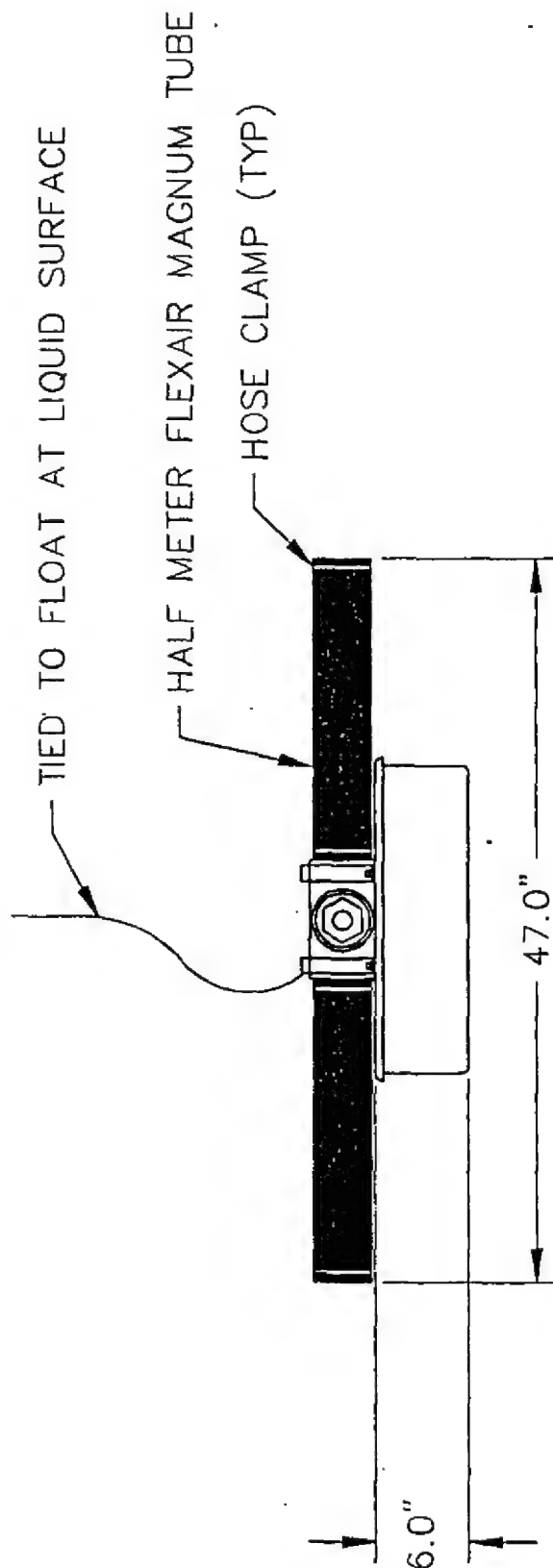
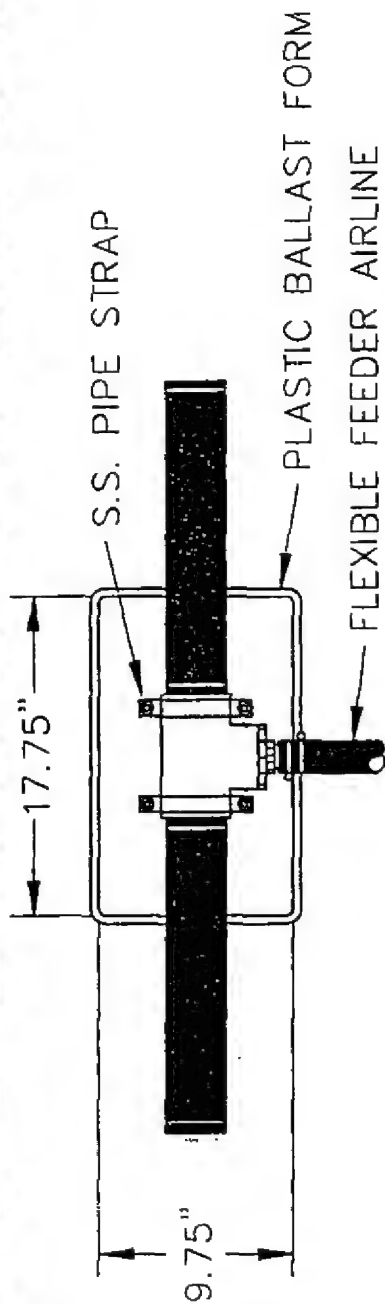
1. S.S. COMPONENTS (BY EDI) TO BE CAST IN CONCRETE
2. BALLAST USES CONCRETE @ 145#/CU FT. DENSITY

FLEXAIR™ 44F MAGNUM DIFFUSER UNIT

WITH PLASTIC BALLAST FORM

SCALE: NTS	DATE: 1-25-94	REV: 4-5-96	DRAWN BY: MELLIS
ENVIRONMENTAL DYNAMICS INC.			DRAWING NUMBER
COLUMBIA, MISSOURI			A-5453

REFER TO DWG. NO. A-5456
FOR BALLAST FRAME DETAIL



NOTES:

1. STAINLESS STEEL COMPONENTS (BY EDI) TO BE CAST IN CONCRETE.
2. BALLAST USES CONCRETE @ 145#/CU FT. DENSITY.

FLEXAIR 42F MAGNUM DIFFUSER UNIT

WITH PLASTIC BALLAST FORM

SCALE: NTS	DATE: 11-17-93	REV: 4-5-96	DRAWN BY: MELLIS
ENVIRONMENTAL DYNAMICS INC.			DRAWING NUMBER
COLUMBIA, MISSOURI			A-5263

REF. S.S. BALLAST FRAME #A-5348

PLASTIC BALLAST FORM (BY EDI)

S.S. HOSE CLAMPS

1-1/4" FEEDER AIRLINE

S.S. CLAMP (TYP)

S.S. EYE NUT (ROTATED FOR CLARITY)

14.25"

1/2 METER FLEXAIR MAGNUM DIFFUSER

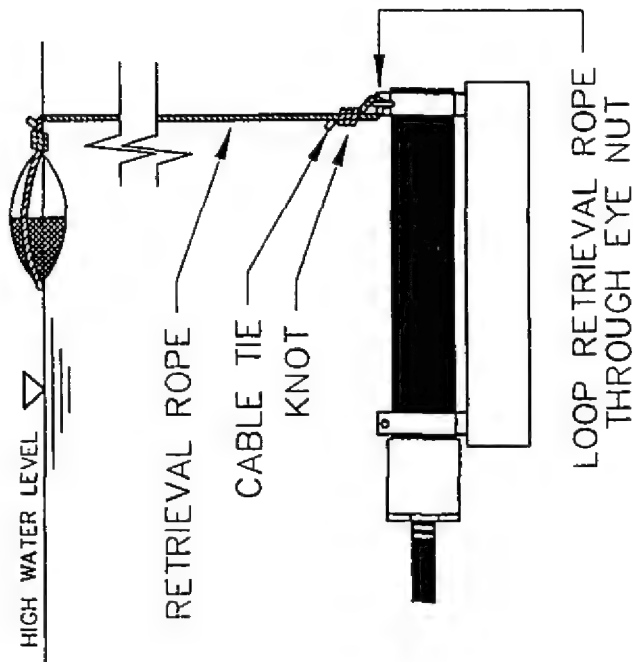
2.5"

20.0"

BALLAST FORM HUMMERT #14-3405

NOTES:

1. STAINLESS STEEL COMPONENTS (BY EDI) TO BE CAST IN CONCRETE.
2. BALLAST USES CONCRETE WITH A DENSITY OF 145#/CU. FT.



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FLEXAIR 21F MAGNUM DIFFUSER UNIT

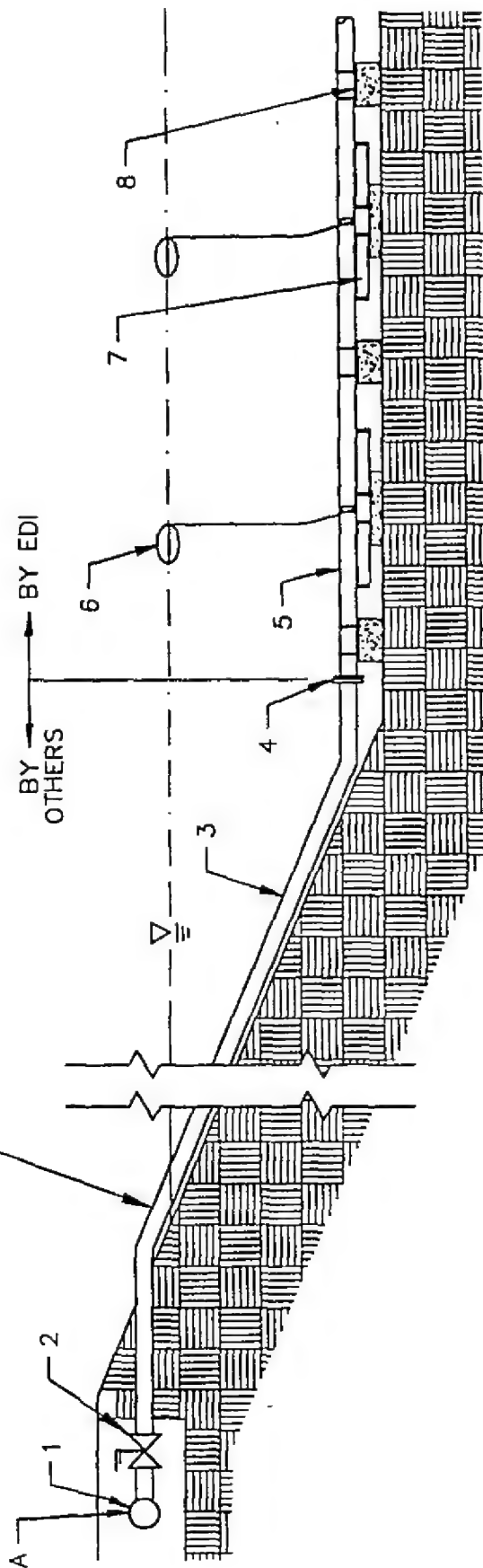
INSTALLATION DETAIL

SCALE: NTS	ENG:	DWN: TEM	DATE: 03-16-92
REF.DWG: A-7476	REV.DWG: 11-23-98	REV: C	

ENVIRONMENTAL DYNAMICS INC.
COLUMBIA, MISSOURI USA

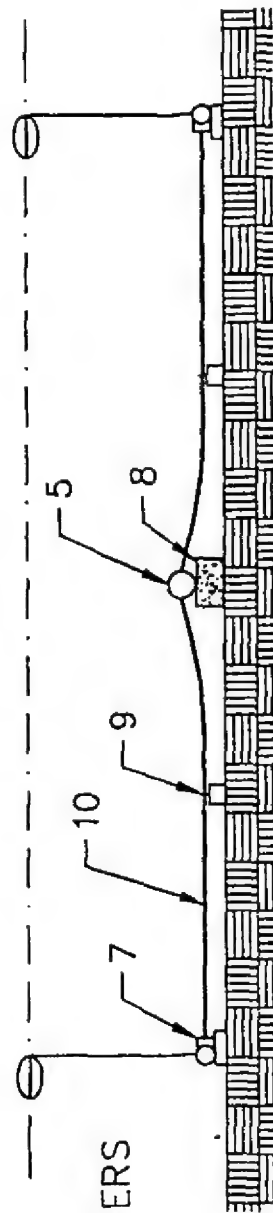
DWG.NO.
A-3284

STUB LATERAL ANCHORAGE TO
BE SUPPLIED BY OTHERS



LEGEND:

1. AIR HEADER BY OTHERS
2. VALVE BY OTHERS
3. METAL STUB LATERAL BY OTHERS
4. METAL TO PE ADAPTER
5. AIR LATERAL
6. FLOAT
7. FLEXAIR AERATION UNIT
8. BALLAST BLOCK
9. AIRLINE SINKER
10. FEEDER AIRLINE



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TYPICAL SECTION VIEW INSTALLATION DETAIL

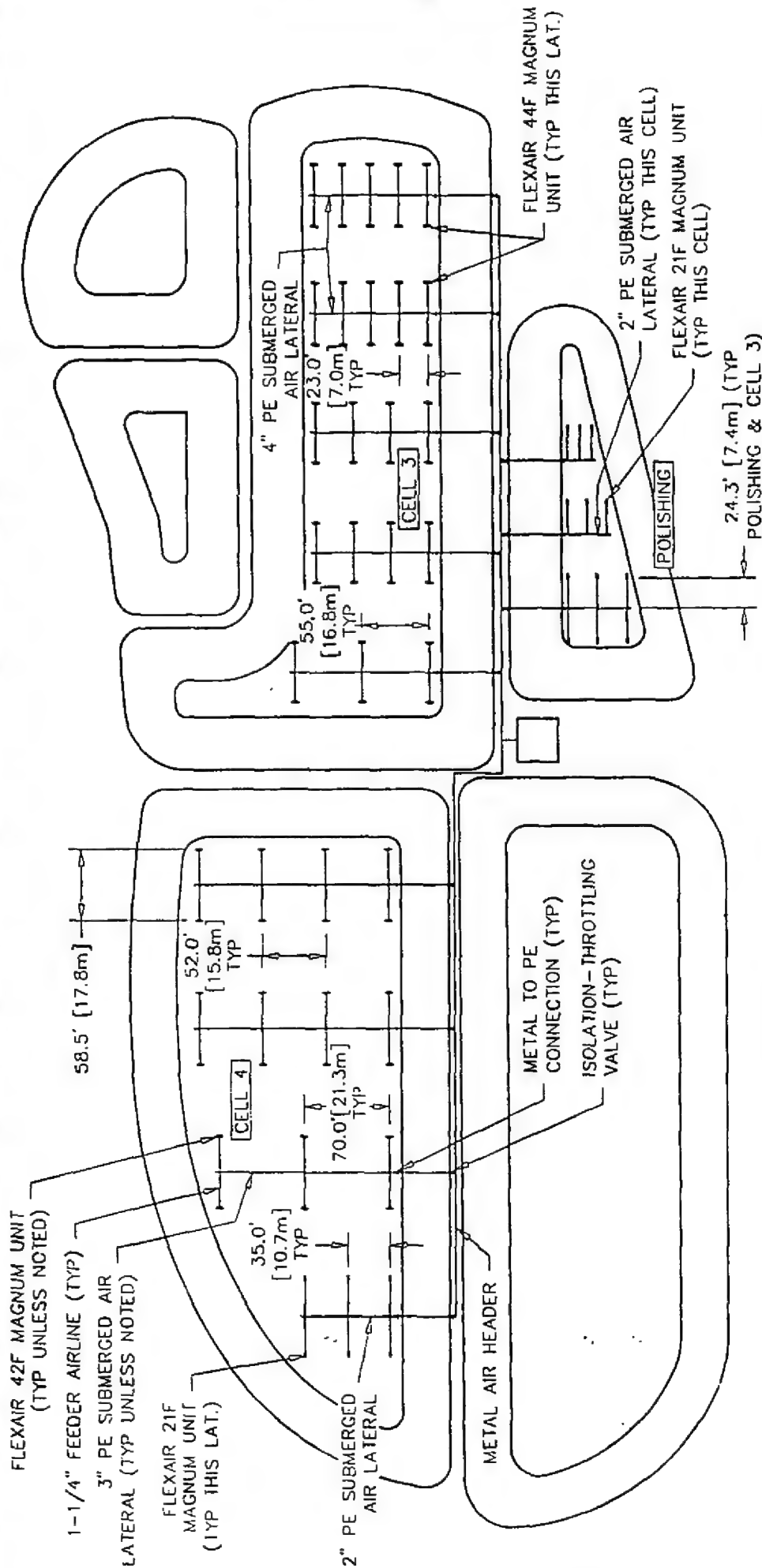
SCALE: N.T.S. ENG: DWN: TEM DATE: 10-21-98

REF.DWG: REV.DWG: REV: DATE:

ENVIRONMENTAL DYNAMICS INC.
COLUMBIA, MISSOURI USA

DWG.NO.
A-11485

NOTE:
A. HEADER INVERT ELEVATION MUST BE
LOCATED ABOVE HIGH WATER LEVEL.



NOTES:

1. LIQUID DEPTH IS 11.97'
DIFFUSER DEPTH IS 11.47'
2. CELL 3 TOTAL= 20 FLEXAIR 44F
MAGNUM UNITS AND 22 FLEXAIR
42F MAGNUM UNITS.
CELL 4 TOTAL= 22 FLEXAIR 42F
MAGNUM UNITS AND 6 FLEXAIR
21F MAGNUM UNITS.
POLISHING TOTAL= 12 FLEXAIR
21F MAGNUM UNITS.
3. SIDE SLOPES ARE 3:1

0 20 40 60



SCALE = METERS

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to Information Act
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l'information

FT. ST. JAMES, BC
ALT. 2

EDI FLEXAIR™ AERATION-MIXING SYSTEM

SCALE: N.T.S. ENG: PJE DWN: TEM DATE: 6-25-99

REF. DWG: REV. DATE: REV:

ENVIRONMENTAL DYNAMICS INC.
COLUMBIA, MISSOURI USA

DWG. NO.
A-12430

E S RGE
AIR LATERAL

FLEXAIR 44F MAGNUM UNIT
(TYP CELL 1 & 2)

FLEXAIR 42F MAGNUM UNIT
(TYP CELL 3 UNLESS NOTED)

1-1/4" FEEDER AIRLINE (TYP)

3" PE SUBMERGED AIR
LATERAL (TYP UNLESS NOTED)

METAL TO PE CONNECTION (TYP)

ISOLATION-THROTTLING VALVE (TYP)

METAL AIR HEADER

FLEXAIR 44F MAGNUM
UNIT (TYP THIS LAT.)

2" PE SUBMERGED AIR
LATERAL (TYP THIS CELL)
FLEXAIR 21F MAGNUM UNIT
(TYP THIS CELL)

POLISHING

NOTES:

1. LIQUID DEPTH IS 11.97'
DIFFUSER DEPTH IS 11.47'
2. CELL 1 TOTAL= 14 FLEXAIR
44F MAGNUM UNITS.
CELL 2 TOTAL= 12 FLEXAIR
44F MAGNUM UNITS.
CELL 3 TOTAL= 16 FLEXAIR 44F
MAGNUM UNITS AND 18 FLEXAIR
42F MAGNUM UNITS.
POLISHING TOTAL= 12 FLEXAIR
21F MAGNUM UNITS.
3. SIDE SLOPES ARE 3:1

0 20 40 60
SCALE = METERS

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

FT. ST. JAMES, BC
ALT. 3

EDI FLEXAIR™ AERATION-MIXING SYSTEM

SCALE: N.T.S.	ENG: PJE	DWN: TEM	DATE: 6-25-99
REF. DWG:	REV. DATE:	REV:	
ENVIRONMENTAL DYNAMICS INC.			DWG. NO. A-1243
COLUMBIA, MISSOURI USA			

DOCUMENT RECEIPT CONFIRMATION

Please complete and return this form to:

Carrier Sekani Tribal Council
Technical Services Unit
#200 - 1460 Sixth Avenue
Prince George, BC V2L 3N2

_____ (company/organization) has received the
following documents:

1. **Capital project submission for Nak'azdli Band (614) - Wastewater
Collection, Treatment & Disposal System Improvements, dated 5/22/01**

attachments include:

- a) **cover letter;**
- b) **project brief;**
- c) **technical certification;**
- d) **environmental screening record;**
- e) **Band Council resolution;**
- f) **Copy of MTSA**
- g) **Encumbrance clearance of 04/30/01;**
- f) **District of Fort St. James correspondence.**

Attached separately:

**District of Fort St. James Sewage Treatment Lagoon Assessment
(June 2000)**

on (m/d/yr)_____.

(Signature)

(Print name)

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

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to Information Act
Communiqué en vertu de la
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l'information

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT British Columbia Region

FIRST NATION Nak'azdli
BAND NUMBER: 614
PROJECT NAME: Wastewater Collection, Treatment &
 Disposal System
PROJECT LOG NUMBER: 5694
SERVICE CODE: 2484
TOTAL PROJECT COST: \$366,000
FUNDING LIMIT: \$25,000
FUNDED TO DATE: \$0
CONTINGENCY: \$0
FUNDING REQUIRED: \$25,000
SPECIAL NOTES:

LEVEL:

Feasibility:

☒

Design:

Acquisition / Construction:

Priority Rating:

Note: *A progress report must be provided to DIAND each quarter for projects that are not complete within 90 days of funding*

CAPITAL PROJECT SUBMISSION RECOMMENDED

Chairperson, Peer Committee

Date: _____

CAPITAL PROJECT SUBMISSION ELIGIBLE

Delegated Signing Authority

Date: _____

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT British Columbia Region

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FUNDED TO DATE: \$0
CONTINGENCY: \$0
FUNDING REQUIRED: \$25,000
SPECIAL NOTES:

LEVEL:

Feasibility:

☒

Design:

Acquisition / Construction:

Priority Rating:

Note: *A progress report must be provided to DIAND each quarter for projects that are not complete within 90 days of funding*

CAPITAL PROJECT SUBMISSION RECOMMENDED

Chairperson, Peer Committee

Date: _____

CAPITAL PROJECT SUBMISSION ELIGIBLE

Delegated Signing Authority

Date: _____

**REAL PROPERTY SERVICES FOR INAC - PWC
Capital Projects Review Document**

*Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information*

Capital Project Management System #5694

A. PROJECT DATA:

First Nation: Nak'azdli Recipient #: 614
Project Name: Wastewater Collection, Treatment &
Disposal System Reserve: _____
FSO: _____ Total Project Cost: \$ 366,000
CPS: Gelinas Frank FTA (Yes / No): _____

B. SUBMISSION:

Feasibility: ☒ Pre-Design Design: ☐ Acquisition / Construction: ☐ Post Completion: ☐
Funding Limit \$ 25,000 Contingency: \$0

Project Proposal: Yes _____ No _____
Environmental Assessment: Yes _____ No _____ N/A _____
Land Encumbrance: Yes _____ No _____ N/A _____

C. REVIEW SUMMARY:

	Meets	Does Not Meet	N/A
Level of Service Standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable Design Standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost Effectiveness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implementation Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The above-noted project proposal has been reviewed in accordance with departmental standards and its compliance to those standards is indicated above. **Where the proposal does not meet established standards, an explanation is provided in an attached memorandum dated: _____.**

PROPOSED PROJECT PRIORITIZATION: _____

Real Property Services for INAC

Date

D. REAL PROPERTY SERVICES REVIEW

(a) Water Resources Engineer: Signature: _____ Date: _____

Comments: _____

(b) Environmental Engineer: Signature: _____ Date: _____

Comments: _____

(c) Elec./Mech Engineer: Signature: _____ Date: _____

Comments: _____

(d) Transportation Engineer: Signature: _____ Date: _____

Comments: _____

(e) District Engineer: Signature: _____ Date: _____

Comments: _____

E. SPECIALIST SERVICES:

Comments: _____

Manager, Specialist Services

Date

DOCUMENT RECEIPT CONFIRMATION

Please complete and return this form to:

Carrier Sekani Tribal Council
Technical Services Unit
#200 - 1460 Sixth Avenue
Prince George, BC V2L 3N2

_____ (company/organization) has received the
following documents:

1. **Capital project submission for Nak'azdli Band (614) - Water System
Improvements, dated 5/22/01**

attachments include:

- a) **cover letter;**
- b) **project brief;**
- c) **technical certification;**
- d) **environmental screening record;**
- e) **Band Council resolution;**
- f) **Copy of MTSA**
- g) **District of Fort St. James correspondence.**

on (m/d/yr)_____.

(Signature)

(Print name)



Health Canada Santé Canada

Environmental Health Services
First Nations and Inuit Health
220-177 Victoria Street
Prince George, BC
V2L 5R8

July 9, 2004

Chief Leonard Thomas
Nak'azdli Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Dear Leonard,

The following samples, collected from Nak'azdli, were tested in our Prince George lab. Results are as follows:


DATE COLLECTED: 23rd June 2004 COLLECTED BY: P.Broda

Sample Location/Source	General Bacteria	Total Coliform	Fecal Coliform
Kwah Hall, Bathroom Tap	6	0	0
Yvonne Gilbert, Outside Tap, Williams Prairie	0	0	0

REMARKS Samples are satisfactory.

If you need an interpretation guide or if you have any questions please feel free to call our office at 561-5384.

Yours truly,


For Paul Broda, B.Sc., C.P.H.I.(C)
Environmental Health Officer

cc: Clara Jack & Health Centre Staff
Aileen Prince, Housing Co-ordinator

04 AUG 26 AM 9:40

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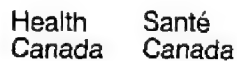
File # 54280-4-614
A-E-UNCXDOC# 308717 c4
ACL

Your file Votre référence

Our file Notre référence
150-5-12
Nak'azdli

Canada

A0430855_1-000813



**Environmental Health Services
First Nations and Inuit Health
220-177 Victoria Street
Prince George, BC
V2L 5R8**

April 6, 2004

Chief Leonard Thomas
Nak'azdli Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Dear Leonard,

The following sample, collected from Nak'azdli, was tested in our Prince George lab. Result is as follows:

DATE COLLECTED: March 31, 2004

COLLECTED BY: Paul Broda

Sample Location/Source	General Bacteria	Total Coliform	Fecal Coliform
Nak'azdli Health Centre Kitchen Tap	45	0	0

REMARKS Sample is satisfactory.

If you need an interpretation guide or if you have any questions please feel free to call our office at 561-5384.

Yours truly,

J. Heulham
for Paul Broda, B.Sc., C.P.H.I.(C)
Environmental Health Officer

cc: Clara Jack & Health Centre Staff
Aileen Prince, Housing Co-ordinator

Released under the Access

. File# CONF 1320-41614 de la
 Loi sur l'Accès à l'Information
 A_B UNC XDOC# 274724C
 ACL

Your file Votre référence

Our title Notre référence

150-5-12

Nak'azdli

'04 APR 16 AM 11:57

Canada

A0430855 2-000814



Health Canada Santé Canada

Environmental Health Services
First Nations and Inuit Health
220-177 Victoria Street
Prince George, BC
V2L 5R8

March 16, 2004

Chief Leonard Thomas
Nak'azdli Band
Box 1329
Fort St. James, B.C.
VOJ 1PO

Dear Leonard,

The following sample, collected from Nak'azdli, was tested in our Prince George lab.
Result is as follows:

DATE COLLECTED: March 10, 2004

COLLECTED BY: Paul Broda

Sample Location/Source	General Bacteria	Total Coliform	Fecal Coliform
Larry Leon, Kitchen Tap, Williams Prairie	0	0	0

REMARKS Samples are satisfactory.

If you need an interpretation guide or if you have any questions please feel free to call our office at 561-5384.

Yours truly,

Paul Broda, B.Sc., C.P.H.I.(C)
Environmental Health Officer

cc: Clara Jack & Health Centre Staff
Aileen Prince, Housing Co-ordinator

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to Information Act

D. ALGASHITANI
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Loi sur l'accès à
l'information
A_B_LUNOXDOC#274725C1
ACL

Your file Votre référence

Our file Notre référence

150-5-12

Nak'azdli

Canada

A0430855_3-000815

'04 APR 16 AM 11:58



Health Canada
Santé Canada

Environmental Health Services
First Nations and Inuit Health
220-177 Victoria Street
Prince George, BC
V2L 5R8

August 19, 2002

Chief Leonard Thomas
Nak'azdli Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

N LAPIERRE
E4380-4-6167
RPS

Your file Votre référence

Our file Notre référence
150-5-12
Nak'azdli

Original In CIDM

Document # 167949

Dear Leonard,

The following samples, collected from Nak'azdli, were tested in our Prince George lab. Results are as follows:

DATE COLLECTED: 12th August 2002 COLLECTED BY: T.Sam

Sample Location/Source	General Bacteria	Total Coliform	Fecal Coliform
Band Office Water Cooler	0	0	0
Ron Prince	0	0	0
Irene Antoine	200	0	0
Daycare Building	0	0	0
Shannon Rivard, Lot 50, Kitchen Tap	24	8	8

REMARKS The Shannon Rivard kitchen tap to be resampled with the faucet screen on and also removed. The screen should then be disinfected and replaced. Boiling is recommended as a precaution until sample results are available. The Irene Antoine faucet screen should also be disinfected as a precaution.

If you need an interpretation guide or if you have any questions please feel free to call our office at 561-5384.

Yours truly,

Paul Broda, B.Sc., C.P.H.I.(C)
Environmental Health Officer

cc: Clara Jack & Health Centre Staff
Aileen Prince, Housing Co-ordinator

Canada



Health and Welfare
Canada

Santé et Bien-être social
Canada

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to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

Occupational & Environmental Health Services
Medical Services Branch
509 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

Your file Votre référence

Our file Notre référence
150-5-12

February 22, 1994

Mr Leonard Thomas
Chief Councillor
NAK'AZD'LI BAND
Box 1329
Fort St. James, B.C.
VOJ 1P0

Dear Leonard,

Re: Annual Water Quality Test Results/1993

Please find attached a summary of drinking water test results for Nak'azd'li Band completed in the calendar year, 1993. The report consists of two parts: test results for water bacteriology, and test results for water chemistry. You will find that a more comprehensive chemical analysis was completed for your water in 1993, that included tests for synthetic compounds.

For a quick description on bacterial and chemical parameters please see the attached information sheet.

Generally speaking your community drinking water was acceptable and is therefore potable. If you have any questions or specific concerns, please feel free to contact our office in Prince George, telephone 561-5379.

Yours truly,

Paul Broda, B.Sc., C.P.H.I.(C)
Environmental Health Officer

cc: CHR
CSTC
~~District Engineer - J. Nak'azd'li~~
CHN

Canada

Water Quality Information - 1993 Annual Tests

Drinking water was tested bacteriologically to determine whether or not the following were present: general bacterial populations, total coliform bacteria, and fecal coliform bacteria. General bacterial populations are background bacteria common in the environment and not necessarily harmful to human health except in special cases. Total coliform are more specialized groups of bacteria. Again these are found everywhere in the environment and particularly in the soil. They are good indicators because if they are present in drinking water, it usually means that surface water is getting into a well water source. Surface waters, lakes, rivers, creeks always have total coliform for obvious reasons. Total coliforms are not particularly harmful to human health but they are groups made up of a host of individual kinds of bacteria. Depending on the type of bacteria and other factors such as an immuno-compromised consumer, there could be a risk to health. The most important group of bacteria is the fecal coliform group. These bacteria are invariably linked to sewage or animal wastes. Drinking water sources showing fecal coliform present are being somehow invaded by sewage or animal wastes. These bacteria can and very often do contain pathogens - that is, bacteria that will cause illness in humans.

Routine water chemistry tests do two things - tests for physical parameters and tests for compounds and metals. Physical parameters are things like colour temperature, odour, turbidity (cloudiness in water), pH (acidity). Compounds normally tested for are things like sulfates, calcium carbonate, alkalinity etc. Metals include things like iron, manganese, copper, magnesium etc. Most metals are natural. In the North Central Interior, iron and manganese are very common in well waters giving the water a highly mineralized quality. While these are not a risk to health, they do give water an unpleasant quality: colour for example can be grey to yellow to amber. Taste is usually a factor.

There is one group of chemicals called synthetic compounds or man made chemicals. In this group are found things like herbicides, fertilizers, pesticides etc. In 1993 a comprehensive chemical analysis was completed for your water, that included tests for these synthetic compounds. Synthetic compounds were found to be at acceptable levels for all North East B.C. drinking water supplies tested in our study.

**NAK'AZD'LI BAND
FORT ST. JAMES**

<u>SOURCE</u>	<u>DATE SAMPLE TAKEN</u>	<u>GENERAL BACTERIAL POPULATION</u>	<u>TOTAL COLIFORMS</u>	<u>FECAL COLIFORMS</u>
MUNICIPAL SYSTEM	07/05/93	0	0	0
LEONARD THOMAS, "WMS PRAIRIE" GW CLUSTER	07/07/93	0	4	4
CHIEF KWAH CENTER, MUNICIPAL SYS	07/07/93	0	0	0
HEALTH CLINIC, COMM TREATED SUPPLY	02/24/93	0	0	0
WILLIAMS PRAIRIE WELL	02/24/93	0	0	0
CLINIC	03/18/93	0	0	0
WILLIAMS PRAIRIE, NAKAZDLI WELL	04/29/93	0	20	0
LEONARD QUAW, IA WELL, WILLIAMS PRAIRIE	05/19/93	0	0	0
LEONARD QUAW, WILLIAMS PRAIRIE	06/10/93	0	4	0
CHIEF KWAH GS RD PUT GW WELL	07/07/93	0	0	0
CHIEF KWAH CENTRE CANTEEN, MUN SYS	07/07/93	0	0	0
STUART LK SWIM BEACH, FORSHOR GRAB SMPL	07/07/93	0	52	14
L.BIRD CLUSTER GW WELL, WMS PRAIRIE	07/14/93	0	0	0
HSE X WELL HSE CLSTER GW WELL, WMS PRAIR	07/14/93	0	0	0
HEX LOG HSE CLSTER GW WELL, WMS PRAIRIE	07/14/93	0	0	0
V.ALEXANDER CLSTER GW WELL, WMS PRAIRIE	07/14/93	0	0	0
LEONARD THOMAS, CLSTER GW WELL, WMS PR	07/14/93	0	0	0
CHIEF QUAW, TAP WATER, WILLIAMS PRAIRIE	07/22/93	0	2	0
VINCENT ALEXANDER	08/12/93	0	35	0
GLEN SAM	08/12/93	0	76	0
LARRY LEON	08/12/93	0	24	0

**NAK'AZD'LI BAND
FORT ST. JAMES**

LEONARD QUAW, HOSE BIB	08/12/93	0	14	0
DEANNA GREG, HOSE BIB	08/12/93	0	4	0
HOUSE ACROSS STREET FROM LEONARD QUAW	08/12/93	0	6	0
ROSE CAMERON, LOG HSE #11, KITCHEN SINK	08/19/93	0	0	0
BAND OFFICE	08/31/93	0	0	0
LARRY LEON, WILLIAMS PRAIRIE	08/31/93	0	21	0
HOME ACROSS FROM PUMPHOUSE, WMS PRAIRIE	08/31/93	0	18	0
VINCENT ALEXANDER, WILLIAMS PRAIRIE	08/31/93	0	74	30
GLEN SAM, WILLIAMS PRAIRIE	08/31/93	0	16	0
DEANNA GREG, WILLIAMS PRAIRIE	08/31/93	0	6	0
LEONARD THOMAS, WILLIAMS PRAIRIE	08/31/93	0	30	0
GLEN SAM	09/28/93	0	0	0
GUY SAMPSON	09/28/93	0	0	0
PUMPHOUSE HOSE BIB	09/28/93	0	54	0
DEANNA GREG	09/28/93	0	0	0
LEONARD THOMAS	09/28/93	0	0	0
PUMPHOUSE RESERVOIR FILL PIPE	09/28/93	0	0	0
LARRY LEON	09/28/93	0	0	0
NAKAZDLI CLINIC, FORT ST. JAMES	09/28/93	0	0	0
VINCENT ALEXANDER	09/28/93	0	190	0
FORT ST. JAMES HEALTH CENTRE	12/07/93	0	0	0
PUMPHOUSE HOSE BIB	12/07/93	0	0	0
VINCENT ALEXANDER	12/07/93	0	0	0
PUMPHOUSE RESERVOIR, SURFACE	12/07/93	0	0	0
LARRY LEON	12/07/93	0	0	0

	INFO	SG	ACT
SEHO			
EHO			
EHO	FT. ST. JOHN		
EHO	WILLIAMS LANE		
LAB			
APR 15 1992			
CHEMICAL ANALYSIS REPORT PUBLIC SERVICE HEALTH NORTH EAST DISTRICT			

ASL

Date: Apr. 09, 1992

ASL File No. 2229C

Report On: Water Analysis

Report To: Health & Welfare Canada
 Medical Services
 409 - 280 Victoria Street
 Prince George, BC
 V2L 4X3

Attention: Mr. Ian Baird - Sr. Environmental Health Officer

Date Received: Mar. 19, 1992

METHODOLOGY

Conventional Parameters

These analyses are carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 17th Ed. published by the American Public Health Association, 1989. Further details are available on request.

Metals

These analyses are carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 17th Edition published by the American Public Health Association, 1989. The procedures involve a variety of instrumental analyses including atomic emission spectrophotometry (ICP) and atomic absorption spectrophotometry (AA) to obtain the required detection limit for each element. Specific details are available on request.

analytical service laboratories ltd.

1988 Triumph Street, Vancouver, B.C. Canada V6L 1K5 • Fax (604) 253-6700 • Telephone (604) 253-4188
 A0430855_9-000821



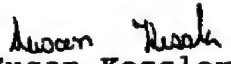
COMMENTS

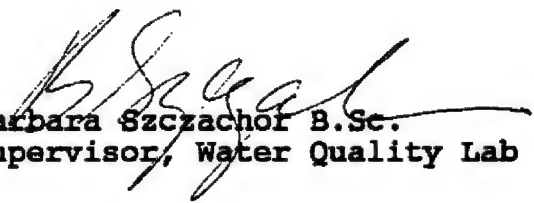
The water as represented by the sample "Leonard Thomas Well" can be characterized as moderately high to high with respect to dissolved mineralization.

The water sample met Canadian and British Columbia drinking water guidelines for all parameters analysed with the exception of turbidity and manganese.

These parameters are limited for aesthetic purposes (ie., appearance taste, etc.) rather than health considerations.

ASL ANALYTICAL SERVICE LABORATORIES LTD.
per:


Susan Kessler
Project Chemist


Barbara Szczachor B.Sc.
Supervisor, Water Quality Lab

RESULTS OF ANALYSIS - Water

File No. 2229C
Page 3

Parameter
Leonard
Thomas
Well
Mar17/92

Physical Tests

Colour	CU	11.0
Conductivity	umhos/cm	707
Hardness	CaCO3	313
pH		7.10
Turbidity	NTU	12.3

Dissolved Anions

Alkalinity	CaCO3	269
Chloride	Cl	4.3
Fluoride	F	0.12
Silicate	SiO2	10.5
Sulphate	SO4	140

Nutrients

Nitrite/Nitrate Nitrogen	N	1.46
--------------------------	---	------

Total Metals

Iron	T-Fe	0.120
Manganese	T-Mn	0.062

Dissolved Metals

Arsenic	D-As	0.0011
Barium	D-Ba	0.049
Cadmium	D-Cd	<0.0002
Calcium	D-Ca	53.0
Chromium	D-Cr	<0.015
Copper	D-Cu	0.022
Iron	D-Fe	<0.030
Lead	D-Pb	<0.001
Magnesium	D-Mg	43.9
Manganese	D-Mn	0.041
Potassium	D-K	2.42
Sodium	D-Na	51.5
Zinc	D-Zn	0.340

* See Drinking Water Guidelines attached.

**Drinking *1
Water
Guidelines**

Physical Tests

Colour	(CU)	15. (A)
Conductivity	(umhos/cm)	
Dissolved Solids	(mg/L)	500. (A)
Total Hardness	(mg/L)	~*2 (A)
pH		6.5-8.5 (A)
Suspended Solids	(mg/L)	-
Turbidity	(NTU)	5. (A)

Dissolved Anions (mg/L)

Alkalinity	CaCO3	-
Chloride	Cl	250. (A)
Fluoride	F	1.5 (H&A)
Silicate	SiO2	-
Sulfate	SO4	500. (H&A)
Nitrate + Nitrite	N	10.0 (H)

Total Metals (mg/L)

Iron	T-Fe	0.30 (A)
Manganese	T-Mn	0.05 (A)

Dissolved Metals (mg/L)

Arsenic	As	0.05 (H)
Barium	Ba	1.0 (H)
Cadmium	Cd	0.005 (H)
Calcium	Ca	-
Chromium	Cr	0.05 (H)
Copper	Cu	1.0 (H)
Iron	Fe	0.30 (A)
Lead	Pb	0.01 (H)
Magnesium	Mg	-
Manganese	Mn	0.05 (A)
Potassium	K	-
Sodium	Na	- *3
Zinc	Zn	5.0 (A)

Results expressed as milligrams per litre except for pH,
Conductivity (umhos/cm), Colour (CU), Turbidity (NTU)

*1 "Maximum acceptable concentration" as published by Health &
Welfare Canada, 1989

*2 Maximum level not established water supplies with a hardness
exceeding 200 mg/L are considered poor but will be tolerated.

*3 Maximum level not established of concern to consumers with
sodium restricted diet. Levels exceeding 20 mg/L may be of
concern in this circumstance.

END OF REPORT




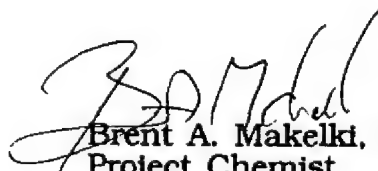
CHEMICAL ANALYSIS REPORT

Date: April 29, 1993
ASL File No. 8951C
Report On: Drinking Water Surveillance Program
Report To: Health & Welfare Canada
Medical Services
409 - 280 Victoria Street
Prince George, BC
V2L 4X3
Attention: Mr. Paul Broda
Received: February 25, 1993

ASL ANALYTICAL SERVICE LABORATORIES LTD.

per:


Scott Hannam
Manager, Trace Organics Lab


Brent A. Makelki, B.Sc.
Project Chemist

cc: C. Lawrence - Vancouver





REMARKS

The water as represented by the samples submitted can be characterized as low to moderately high with respect to dissolved mineralization. The samples met the Canadian Drinking Water Guidelines for all parameters analysed with the exception of Manganese for "Williams Prairies Well", Total Dissolved Solids for "Old Tache Well", and Iron for "Necoslie." These parameters are limited for aesthetic purposes only.



RESULTS OF ANALYSIS

	Williams Prairie Well	Old Tache Well	Tache Lake	Binche Lake	Necoslie Well
	93 02 24	93 02 24	93 02 24	93 02 24	93 02 24
<hr/>					
Physical Tests					
Colour CU	<5.0	<5.0	14.1	<5.0	9.8
Conductivity umhos/cm	768	750	97.8	640	735
Total Dissolved Solids	458	506	62	394	406
Hardness CaCO ₃	267	244	49.5	162	331
pH	8.17	8.20	7.35	8.31	7.97
Total Solids	460	515	77	405	420
Turbidity NTU	0.40	1.90	1.00	0.20	3.50
Dissolved Anions					
Alkalinity - Total CaCO ₃	303	193	46.6	202	320
Chloride Cl	4.0	2.2	<0.5	<0.5	<0.5
Fluoride F	0.12	0.10	0.07	0.29	0.10
Sulphate SO ₄	70.5	173	4.6	105	41.6
Nutrients					
Ammonia Nitrogen N	0.021	0.068	0.009	0.190	0.106
Nitrate Nitrogen N	0.063	0.295	0.053	<0.005	<0.005
Nitrite Nitrogen N	0.002	0.006	0.003	0.002	<0.001
Nitrite/Nitrate Nitrogen N	0.065	0.301	0.056	<0.005	<0.005
Cyanides					
Total Cyanide CN	<0.001	<0.001	0.003	<0.001	<0.001

Remarks regarding the analyses appear at the beginning of this report.
< = Less than the detection limit indicated.
Results are expressed as milligrams per litre except where noted.

RESULTS OF ANALYSIS

		Williams Prairie Well 93 02 24	Old Tache Well 93 02 24	Tache Lake 93 02 24	Binche Lake 93 02 24	Necoslie Well 93 02 24
Total Metals						
Aluminum	T-Al	0.024	0.026	0.018	<0.005	0.006
Antimony	T-Sb	<0.0001	<0.0001	0.0001	<0.0001	<0.0001
Arsenic	T-As	0.0011	0.0120	0.0002	0.0075	0.0075
Barium	T-Ba	0.035	0.014	0.018	0.018	0.057
Boron	T-B	0.14	<0.10	<0.10	<0.10	<0.10
Cadmium	T-Cd	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Calcium	T-Ca	39.1	60.0	13.9	18.8	50.4
Chromium	T-Cr	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	T-Co	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	T-Cu	0.017	0.043	0.135	0.005	0.012
Iron	T-Fe	<0.030	0.078	0.043	0.055	0.439
Lead	T-Pb	<0.001	0.004	0.002	<0.001	<0.001
Magnesium	T-Mg	41.0	22.9	3.61	27.9	49.9
Manganese	T-Mn	0.055	0.046	<0.005	0.026	0.030
Mercury	T-Hg	0.00020	<0.00005	<0.00005	<0.00005	<0.00005
Potassium	T-K	2.0	2.6	<2.0	2.0	2.8
Selenium	T-Se	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Sodium	T-Na	55.6	59.2	1.78	67.3	13.3
Uranium	T-U	0.00140	0.00073	0.00005	0.00024	0.00012
Zinc	T-Zn	0.165	0.038	0.038	<0.005	0.009
Inorganic Parameters						
Sulphide	S	<0.02	<0.02	<0.02	<0.02	<0.02
Halogenated Volatiles						
Bromodichloromethane		<0.001	<0.001	<0.001	<0.001	<0.001
Bromoform		<0.001	<0.001	<0.001	<0.001	<0.001
Carbon Tetrachloride		<0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene		<0.001	<0.001	<0.001	<0.001	<0.001
Chloroform		<0.001	<0.001	<0.001	<0.001	<0.001
Dibromochloromethane		<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichlorobenzene		<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene		<0.001	<0.001	<0.001	<0.001	<0.001
1,2-Dichloroethane		<0.001	<0.001	<0.001	<0.001	<0.001
1,1-Dichloroethylene		<0.001	<0.001	<0.001	<0.001	<0.001
Tetrachloroethylene		<0.001	<0.001	<0.001	<0.001	<0.001
Trichloroethylene		<0.001	<0.001	<0.001	<0.001	<0.001
Trichlorofluoromethane		<0.001	<0.001	<0.001	<0.001	<0.001
Vinyl Chloride		<0.001	<0.001	<0.001	<0.001	<0.001

Remarks regarding the analyses appear at the beginning of this report.
< = Less than the detection limit indicated.
Results are expressed as milligrams per litre except where noted.



RESULTS OF ANALYSIS

	Williams Prairie Well 93 02 24	Old Tache Well 93 02 24	Tache Lake 93 02 24	Binche Lake 93 02 24	Nacoslie Well 93 02 24
<hr/>					
<u>Non-halogenated Volatiles</u>					
Benzene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
meta- & para-Xylene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
ortho-Xylene	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
<u>Polyaromatic Hydrocarbons</u>					
Benzo(a)pyrene	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
<u>Chlorinated Phenols</u>					
2,4-Dichlorophenol	<0.001	<0.001	<0.001	<0.001	<0.001
2,4,6-Trichlorophenol	<0.001	<0.001	<0.001	<0.001	<0.001
2,3,4,6-Tetrachlorophenol	<0.001	<0.001	<0.001	<0.001	<0.001
Pentachlorophenol	<0.001	<0.001	<0.001	<0.001	<0.001
<u>Organic Parameters</u>					
Total Organic Carbon C	<0.50	0.75	4.95	0.70	<0.50

Remarks regarding the analyses appear at the beginning of this report.
< = Less than the detection limit indicated.
Results are expressed as milligrams per litre except where noted.

Appendix - METHODOLOGY

Samples were analyzed by methods acceptable to the appropriate regulatory agency. Outlines of the methodologies utilized are as follows:

Conventional Parameters in Water

These analyses are carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 18th Ed. published by the American Public Health Association, 1992. Further details are available on request.

Metals in Water

These analyses are carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 18th Edition published by the American Public Health Association, 1992. The procedures involve a variety of instrumental analyses including atomic emission spectrophotometry (ICP) and atomic absorption spectrophotometry (AA) to obtain the required detection limit for each element. Specific details are available on request.

Volatile Organic Priority Pollutants in Water

This analysis is carried out in accordance with U.S. EPA Method 624 and 524. These procedures involve purge and trap extraction of the sample and subsequent analysis of the volatile components by capillary column gas chromatography with mass spectrometric detection.

Polynuclear Aromatic Hydrocarbons in Water

This analysis is carried out in accordance with U.S. EPA Method 3510/8270. (publ. #SW-846, 3rd Ed., Washington, DC 20460). This method involves the extraction of the sample with methylene chloride followed by silica column chromatography cleanup. The resulting extract was analysed by capillary column gas chromatography with mass spectrometric detection.

Chlorinated and Non-Chlorinated Phenols in Water

This analysis is carried out in accordance with U.S. EPA Methods 604 (EPA 1984 - 40 CFR Part 136, 49:209) and 3510/8040. The sample is extracted with acidified methylene chloride followed by a ion-exchange cleanup. The final extract is derivatized and analysed by capillary column gas chromatography with flame ionization detection and electron capture detection.

End of Report



CANADIAN DRINKING WATER GUIDELINES

Physical Parameters		Drinking *1 Water Guidelines	Basis of Guideline
Physical Tests			
Colour	(CU)	15.	AO
Conductivity	(µmhos/cm)	-	-
Dissolved Solids	mg/L	500.	AO
Total Hardness	mg/L	-	*2
pH		6.5-8.5	AO
Total Solids	mg/L	-	-
Turbidity	(NTU)	1 / 5	MAC / AO (*3)
Dissolved Anions (mg/L)			
Alkalinity	CaCO ₃	-	-
Chloride	Cl	250.	AO
Fluoride	F	1.5	MAC
Silicate	SiO ₂	-	-
Sulfate	SO ₄	500.	AO
Nutrients			
Ammonia	N	-	-
Nitrate Nitrogen	N	10.0	MAC
Nitrite Nitrogen	N	1.0	MAC
Nitrate + Nitrite	N	10.0	MAC
Cyanides			
Cyanide	CN	0.2	MAC
Inorganic Parameters			
Sulphide	S	0.05	AO
Metals (mg/L)			
Aluminum	Al	-	-
Antimony	Sb	-	-
Arsenic	As	0.05	MAC
Barium	Ba	1.0	IMAC
Boron	B	5.0	MAC
Cadmium	Cd	0.005	MAC
Calcium	Ca	-	-
Chromium	Cr	0.05	MAC
Cobalt	Co	-	-
Copper	Cu	1.0	AO
Iron	Fe	0.30	AO
Lead	Pb	0.01	MAC
Magnesium	Mg	-	-
Manganese	Mn	0.05	AO
Mercury	Hg	0.001	MAC
Potassium	K	-	-
Selenium	Se	0.01	MAC
Sodium	Na	200.	AO
Uranium	U	0.020	MAC
Zinc	Zn	5.0	AO



CANADIAN DRINKING WATER GUIDELINES (Cont)

Physical Parameters	Drinking *1 Water Guidelines	Basis of Guideline
<u>Halogenated Volatiles</u>		
Bromodichloromethane	-	-
Bromoform	-	-
Carbon Tetrachloride	0.005	MAC
Chlorobenzene	0.08	MAC
Chloroform	-	-
Dibromochloromethane	-	-
1,2-Dichlorobenzene	0.2	MAC
1,4-Dichlorobenzene	0.005	MAC
1,2-Dichloroethane	0.005	IMAC
1,1-Dichloroethylene	-	-
Tetrachloroethylene	-	-
Trichloroethylene	0.05	MAC
Trichlorofluoromethane	-	-
Vinyl Chloride	-	-
<u>Non-Halogenated Volatiles</u>		
Benzene	0.005	MAC
Ethylbenzene	0.0024	AO
Toluene	0.024	AO
meta- & para-Xylene	0.3	AO
ortho-Xylene	0.3	AO
<u>Polyaromatic Hydrocarbons</u>		
Benzo(a)pyrene	0.00001	MAC
<u>Chlorinated Phenols</u>		
2,4-Dichlorophenol	0.9	MAC
2,4,6-Trichlorophenol	0.005	MAC
2,3,4,6-Tetrachlorophenol	0.1	MAC
Pentachlorophenol	0.06	MAC
<u>Organic Parameters</u>		
Total Organic Carbon	-	-

*1 = Published by Health & Welfare Canada, 1989 (available from Canadian Government Publishing Centre, Ottawa, K1A 0S2. Catalogue No. H48-10/1989E. ISBN 0-660-13271-0).

Basis for Guideline (refer to above reference for details).

MAC = Maximum Acceptable Concentrations (health considerations).

IMAC = Interim Maximum Acceptable Concentrations.

AO = Aesthetic Objective (taste, odour, appearance, etc.).

*2 = Maximum level not established - levels greater than 200 mg/L are considered poor, but may be tolerated.

*3 = At point of consumption / level of 5 NTU may be permitted for water entering a distribution system. (Consult publication cited for details.)



can test ltd.

SUITE 200 1523 WEST 3rd AVENUE, VANCOUVER, B.C. V6J 1J8

• TELEPHONE (604) 734-7276

• TELEX 04-54210

NECOSLIE
Received under the Access to Information Act

Communiqué en vertu de la
Loi sur l'Accès à
l'information

Analysis of Water Samples

2120G

Report On _____

File No. _____

Disk#6 (Govt)

Report No. _____

Government of Canada, Health and Welfare

Reported To _____

P.O. # _____

Medical Services, #540 - 757 W. Hastings

March 9/87

Date _____

Vancouver, B.C.

cc: Health and Welfare
Northeast Zone

Attention: _____

We have tested the samples submitted by you and report as follows:

PROJECT NAME: Water Quality

SUMMARY:

For the chemical parameters tested, the samples met all of the limits set by the "British Columbia Drinking Water Quality Standards, 1982", Province of B.C., Ministry of Health and "Guidelines for Canadian Drinking Water Quality, 1978", published by authority of Health and Welfare, Canada as indicated in the "Results of Testing".

SAMPLE IDENTIFICATION:

The samples were identified as:

DATE SAMPLED: February 16, 1987

DATE SUBMITTED: February 17, 1987

TYPE OF CONTAINER: 1L Plastic

With further identification in "Results of Testing".

METHOD OF TESTING:

The metals were determined using Inductively Coupled Plasma Spectrographic analysis, direct or graphite furnace atomic absorption spectrophotometry.

The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 15th Edition, 1980; 16th Edition, 1985, published by the American Public Health Association.

CAN-TEST LTD.

Don M. Enns, B.Sc.,
Supervisor
Water Quality Laboratory

DME/csd

Gov't. of Canada, Health and Welfare

File No: 2120G

Page No: 2

SAMPLE IDENTIFICATION AND RESULTS OF TESTING:

SAMPLE #		2	MAXIMUM
CLIENT SAMPLE I.D.		NECOSLIE COMMUNITY	ACCEPTABLE
		WATER - FT. ST. JAMES	CONC.***
		WELL	
PHYSICAL TESTS			
pH		7.90	6.5-8.5
Conductivity (micromhos/cm)		690.	-
True Color [Pt-Co Scale](CU)		L 5.	15.
Turbidity (NTU)		0.42	5.
Hardness (mg/L)		338.	-
DISSOLVED ANIONS (mg/L)			
Alkalinity: Bicarbonate	HCO3	429.	-
Carbonate	CO3	Nil	-
Hydroxide	OH	Nil	-
Chlorides	Cl	0.50	250.
Sulfates	SO4	1.5	500.
Nitrates and Nitrites	N	0.16	10.**
Fluorides	F	0.082	1.5
DISSOLVED METALS (mg/L)			
Calcium	Ca	50.8	-
Magnesium	Mg	50.3	-
Sodium	Na	13.8	-
Potassium	K	2.02	-
Iron	Fe	L 0.030	0.30
Manganese	Mn	0.028	0.05
Silicon	SiO2	25.8	-
TOTAL METALS (mg/L)			
Iron	Fe	L 0.030	0.30
Manganese	Mn	0.030	0.05
Arsenic	As	0.003	0.05
Barium	Ba	0.039	1.0
Cadmium	Cd	L 0.001	0.005
Chromium	Cr	L 0.001	0.05
Copper	Cu	0.015	1.0
Lead	Pb	L 0.001	0.05
Zinc	Zn	L 0.010	5.0

mg/L = milligrams per liter; L = Less than = not detected

** = total nitrate and nitrite nitrogen

*** = Maximum Acceptable concentration as set by "B.C. Drinking Water Quality
Standards, 1982" and "Guidelines for Canadian Drinking Water Quality, 1978"

x = Exceeded the "Guidelines"



CAN-TEST LTD.

SUITE 200 1523 WEST 3rd AVENUE, VANCOUVER, B.C. V6J 1J8

PRINCE GEORGE

NECOSLIE COMMUNITY

Released under the Access to Information Act

Communiqué en vertu de la Loi sur l'accès à l'information

TELEPHONE (604) 734-7276

TELEX 04-54210

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Vancouver, B.C.

Date

cc: Health and Welfare
Northeast Zone

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DATE SUBMITTED: February 17, 1987
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With further identification in "Results of Testing".

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The analyses were carried out in accordance with procedures described in "Standard Methods for the Examination of Water and Wastewater" 15th Edition, 1980; 16th Edition, 1985, published by the American Public Health Association.

CAN-TEST LTD.

Don M. Enns, B.Sc.,
Supervisor
Water Quality Laboratory

DME/csd

SEARCHED	INDEXED
SERIALIZED	FILED
MAR 11 1987	
FEDERAL SERVICE - 3	
PACIFIC REGION	

Gov't. of Canada, Health and Welfare
File No: 2120G
Page No: 2

SAMPLE IDENTIFICATION AND RESULTS OF TESTING:

SAMPLE #		1	2	MAXIMUM
CLIENT SAMPLE I.D.		^{Pinche} PINCHE COMMUNITY WELL	NECOSLIE COMMUNITY WATER - FT. ST. JAMES WELL	ACCEPTABLE CONC.***
PHYSICAL TESTS				
pH		8.07	7.90	6.5-8.5
Conductivity (micromhos/cm)		598.	690.	-
True Color [Pt-Co Scale](CU)		L 5.	L 5.	15.
Turbidity (NTU)		0.53	0.42	5.
Hardness (mg/L)		155.	338.	-
DISSOLVED ANIONS (mg/L)				
Alkalinity: Bicarbonate	HC03	274.	429.	-
Carbonate	C03	Nil	Nil	-
Hydroxide	OH	Nil	Nil	-
Chlorides	Cl	L 0.5	0.50	250.
Sulfates	S04	67.2	1.5	500.
Nitrates and Nitrites	N	0.081	0.16	10.**
Fluorides	F	0.30	0.082	1.5
DISSOLVED METALS (mg/L)				
Calcium	Ca	18.3	50.8	-
Magnesium	Mg	26.0	50.3	-
Sodium	Na	73.1	13.8	-
Potassium	K	1.18	2.02	-
Iron	Fe	L 0.030	L 0.030	0.30
Manganese	Mn	0.024	0.028	0.05
Silicon	Si02	11.9	25.8	-
TOTAL METALS (mg/L)				
Iron	Fe	0.095-	L 0.030-	0.30
Manganese	Mn	0.025	0.030	0.05
Arsenic	As	0.007	0.003	0.05
Barium	Ba	0.018	0.039	1.0
Cadmium	Cd	L 0.001	L 0.001	0.005
Chromium	Cr	0.001	L 0.001	0.05
Copper	Cu	0.002	0.015	1.0
Lead	Pb	L 0.001	L 0.001	0.05
Zinc	Zn	L 0.010	L 0.010	5.0

mg/L = milligrams per liter; L = Less than = not detected

** = total nitrate and nitrite nitrogen

*** = Maximum Acceptable concentration as set by "B.C. Drinking Water Quality Standards, 1982" and "Guidelines for Canadian Drinking Water Quality, 1978"

x = Exceeded the "Guidelines"

ANNUAL SUMMARY: DRINKING WATER - BACTERIOLOGICAL QUALITY

COMMUNITY: Binchi , NECOSLIE INDIAN BAND
YEAR: 1989 (NAWAZOKI)

BACTERIOLOGICAL SAMPLING

LEGEND: TYPE OF SOURCE TYPE OF DISTRIBUTION TREATMENT
G= Ground Water I= Individual Cl= Chlorinated
S= Surface Water C= Community Fl= Fluoridated
2015 90 Trucked Water Ft= Filtered

WATER SYSTEM / LOCATION	S O U R C E	D I S T .	T R E A T .	Total Coliform		Fecal Coliform	
				P R E S E N T	A B S E N T	P R E S E N T	A B S E N T
Community Well:							
Clinic					1		1
East end dist. line					1		1
Clinic West End dist. line					1		1
Clinic					1		1
Comm. Deep Well				1	1		2
Sara Duncan					1		1
Benny Joseph Res. - Comm. Well					1		1
Mary Ann Joseph - unCl ₂					1		1

Page 838
is not relevant
est non pertinente



July 19, 1985

8 4 7 9 0

JUL 25 A10 :31

Our File: F659-04

NECOSLIE INDIAN BAND
Box 1329
FORT ST. JAMES, B.C.
VOJ 1PO

Attention: Mr. Ken Peters, Band Manager

Dear Mr. Peters:

Re: Necoslie Road Subdivision and Sewermain Extension

Grizzly Contracting Ltd. have submitted the following documentation to substantiate release of the 10% holdback held by the Band on this project.

- A Statutory Declaration dated July 19, 1985
- A clearance from the Worker's Compensation Board

We find each of the above listed documents in order and photocopies of each are attached for your reference.

Progress Estimate No. 1 (final) dated May 31, 1985 indicates a hold-back of \$8,704.40; a copy of the last page is attached for your reference. The Construction Completion Certificate is dated May 31, 1985 and release of the holdback, subject to lien check is due 45 days later or on July 15, 1985, since past.

Should you have any questions please do not hesitate to call.

Yours truly

URBAN SYSTEMS LTD.

G. SUTHER, C.E.T.

GS:kpp

cc: Mr. T.K. Thien, P.Eng.

~~Mr. J. K. Kookindemijer, P.Eng.~~
Grizzly Contracting Ltd.

CANADA
PROVINCE OF
BRITISH COLUMBIA

IN THE MATTER OF
 EVIDENCE ACT " and in the matter of certain
 disbursements made in connection with con-
 struction of: Necoslie Road New Subdivision
 and Sewermain Extension.

TO WIT:

Between: GRIZZLY CONTRACTING LTD. of [REDACTED]
 of the first part and NECOSLIE
 INDIAN BAND of Box 1329, Fort St. James, B.C. of the second part.

I, I [REDACTED],
 being president of the firm GRIZZLY CONTRACTING LTD.

in the Province of British Columbia

do solemnly declare

I. That all liabilities incurred by the said Contractors or
 Contractor in connection with the aforementioned contract
 have been paid, including:

- (a) All wages for the various classes of labour.
- (b) All materials and supplies.
- (c) Amounts due Sub-Contractors.
- (d) All other bills of every nature.

II. That there is no claim of lien accruing for labour or
 services performed of materials furnished or otherwise
 in connection with the said works.

AND I make this solemn declaration, conscientiously believing it to be true and knowing that it is of
 the same force and effect as if made under oath.

DECLARED before me

at Prince George
 in the Province of British Columbia,

this 19th day of July
 A. D. 19 95

R. Seave

James A. Maclean

Notary Public in and for the Province of British Columbia
 Commissioner for taking Affidavits for British Columbia

REV. 7/78

A0430857_3-000840

JAMES A. MACLEAN

PRINCE GEORGE
 V2L 507



TO WHOM IT MAY CONCERN

10th July, 1985

Dear Sirs:

Re: Grizzly Contracting Ltd.
Firm No. 228177-143
Projects:

Further to your recent enquiry, we confirm that the above firm:

- ☒ has satisfied assessment requirements to 31st Mar. 1985.
- ☐ is delinquent to assessment.
- ☐ is cancelled as an employer as of _____ and is in good standing to that date.
- ☐ has just recently registered as an employer and is not yet required to remit.
- ☐ does not appear to be registered as an employer.

Yours truly,

K. G. ROBERTSON

Per _____

Collections Section
Assessment Department
Telephone: 276-3080

Form 18M72



urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

JOB NO. _____

PROJECT _____ ESTIMATE NO. _____

LOCATION _____ DATE May 31 19 85

OWNER _____ COMPLETION DATE _____ 19 _____

CONTRACTOR _____ PAGE 5 OF 5

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
SUMMARY:							
TOTAL - Part 1.0 Sewermain Extension						64,993 00	64,993 00
TOTAL - Part 2.0 New Subdivision Water System						17,452 40	17,452 40
						-----	-----
TOTAL:						82,445 40	82,445 40
PROVISIONAL CONTRACT SUM:							
USL #1000						1,048 00	1,048 00
USL #1002						3,555 00	3,555 00
TOTAL						87,048 40	87,048 40

REMARKS	RETENTION	10	%	8,704	84
PROVISIONAL CONTRACT SUM ITEMS:	BALANCE			78,343	56
SL #1000 - paid for supply and installation of Ø400 CMP culvert across access into the new Necoslie subdivision.	PREVIOUS BALANCE			--	
	AMOUNT DUE			78,343	56
SL #1002 - paid for supply and installation of Ø400 CMP culverts across existing driveways on Kwah Road as well as regrading the existing ditch to improve drainage.					

-A0430857 5-000842



PROJECT ENGINEER

RESIDENT INSPECTOR

July 18, 1985

E4380-614

Necoslie Band
P.O. Box 1329
Fort St. James, B. C.
V0J 1P0

Attn: Ken Peters
Band Manager

Dear Mr. Peters:

Re: BCR 985/614-12 (85/86) Sewer Main Extension

This letter is to acknowledge receipt of the above-mentioned Band Council Resolution. At this time, I would like to clarify my letter of May 29th, 1985, (Copy attached).

The Band has already received approval for the retention of 1984/85 capital surplus funds of \$13,000. The amendment required is for an additional contribution of \$12,000 from the Department in the current fiscal year.

Attached for your convenience is a sample amendment B.C.R. which will facilitate your request.

If you have any questions on the above matter, please do not hesitate to contact me.

Yours truly,

JEFF GOLDIE
HEAD OF BAND OPERATIONS
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
Prince George, B. C.
V2L 4X3

JG/frb

Att.



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et inuit

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

Chronological Record of Access

to Information Act

Communiqué en vertu de la

File Reference - N° de réf. du dossier

Loi sur l'accès à
l'information

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds

NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$ _____
AGENCY DISTRICT	PRINCE GEORGE	Committed - Engagé	\$ _____
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$ _____
PLACE NOM DE L'ENDROIT	FORT ST. JAMES.	Committed - Engagé	\$ _____
DATE	DAY - JOUR MONTH - MOIS AD 19 YEAR - ANNEE		

DO HEREBY RESOLVE:

AMENDMENT TO B.C.R. #614-7-85/86

DÉCIDE, PAR LES PRÉSENTES:

AND REQUEST an additional contricution in the sum of \$12,000, which is required for the following purpose:

85/86 CAPITAL PROJECT (Necoslie sewer Extension)

AND AGREE that these funds are required for the fiscal year ending March 31, 1986.

AND AGREE that all terms and conditions set out in B.C.R. #614-7-85/86 shall apply to this aAmendment. This Amendment brings our total contribution for this project to \$88,000.00.

THESE FUNDS are required in August, 1985.

AND AGREE that this Amendment will take effect on the date approved and will expire June 30, 1986.

A quorum for this Bande
Pour cette bande le quorum est

consists of V (five)
fixé à

Council Members
Membres du Conseil

(Chief - Chef)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE

1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A. Capital B. Revenue - Revenu	3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens	5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenu
6. Recommended - Recommandable	Approved - Approuvable			
HEAD OF BAND OPERATIONS Date Recommending Officer - Rec		A/DISTRICT MANAGER Approving Officer - Approuvé par		

ROUTING SLIP
CONTRIBUTION AGREEMENTS

Released under the Access
to Information Act

District Office Prince George Contribution Agreement/BCR # 985/614-12 (85/86)
 Program Band Operations Originator's Signature Loi sur l'Accès à l'information
 Recipient Necoslie Date of Contribution Agree. June 21, 1985
 Value of this Contr. Agree. \$ \$76,000.00 Date Contribution Agree./BCR
 Prior Agreements for this purpose \$ 13,000.00 Received in District Office June 27, 1985
 Total - This Purpose \$ 89,000.00

All other Agreements - Year to Date for this Band \$ 1,605,586.00

Total Value of Contribution Agreements/BCR to date \$ 1,618,580.00

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations *		For your recommendation	02.07.85	15/7/85	<i>[Signature]</i>
Head, Finance & Admin *			15.07.85		
District Manager					

* If the time between date in and date out exceeds two working days, provide reason below:

PIC Di being revised waiting for AIDE JB
T.K. will be in the office 3/07/85 JB
PICD rec'd July 11

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Director, Band Ops					
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
Finance					
Director of Operations					
Regional Director Gen.					

* If the time between date in and date out exceeds two working days, provide reason below:

CONTRIBUTION ARRANGEMENT

CHECKLIST

Band: Necoslie

BCR# 985/614-12 (85/86)

T.B. Mandatory Financial Requirements

- Recipient clearly identified?
- Acceptable expenditure plan broken down by Program/Activity?
- Purpose of Contribution?
- Duration (Expire March 31, 1986 subject to any other conditions)?
- Annual Audit (June 30, 1985)?

Method of Payment

- Maximum 3 month Cash Advance at any one time?
- Quarterly or more frequent Financial Reports within 90 days following the period to which they apply?
- Cash Flow? (Needed to verify advance requirements)
- No further advance payment if Financial Report not received within 90 days following the period to which they apply?
- Signature for Financial Certification
- Signing Date specified?
- Effective date specified?
- Conditions for final payment? (Ensure condition may be waived at discretion of District Manager)
- If comprehensive or consolidated conditions for inter-activity transfers?
- Specific Termination provisions?
- Amount of Contribution?

P.M.'s initials

Head Fin. & Admin.

Date

Other Requirements

- Operational Reports?
- If Capital is fully Authorized P.I.C.D. Attached?
- Are Technical Terms and Conditions attached?
- Signing Authority Level? C.D.M. D.O. H.Q.
- If Recipient not a Band, evidence it is a Legal Entity?
- Are V.C.C. Service Code, Service Number, noted?
- Will the Contribution Agreement achieve the desired impact?
- Is this the best use of all allocated funds?
- Is there a more effective way to achieve the Bands', Associations or individuals goal?

Program Manager

Date



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et Inuit

Released under the Access
Chronological No. - Numéro chronologique
985/614-12 (85/86)
Communiqué en vertu de la
Loi sur l'accès à l'information
File Reference - Numéro de dossier
E4215-4-614; E4380-614

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from
Band Funds
NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent apparaître dans toutes les résolutions demandant des dépenses à
même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$
AGENCY		Committed - Engagé	\$
DISTRICT	PRINCE GEORGE	Current Revenue balance Solde de revenu	\$
PROVINCE	BRITISH COLUMBIA	Committed - Engagé	\$
PLACE			
NOM DE L'ENDROIT	FORT SAINT JAMES		
DATE	21 06 AD 19 85 DAY - JOUR MONTH - MOIS YEAR - ANNÉE		

DO HEREBY RESOLVE:
DECIDE, PAR LES PRESENTES: AMENDMENT TO B.C.R. #614-7-85/86

AND REQUEST an additional contribution in the sum of \$13,000.00, which is required for the following purpose:

85/86 CAPITAL PROJECT (Necoslie Road Sewer Extention)
Necoslie Road. Newsubdivision & Sewermain Extention (13,000.00 surplus funds in 85/86 Capital budget.)

AND AGREE that these funds are required for the fiscal year ending March 31, 1986

AND AGREED that all other conditions set out in B.C.R. #614-7-85/86 shall apply to this Amendment. This Amendment brings our total contribution for this project to \$76,000.00 - 85/86 Capital Project + \$13,000 - 85/86 Capital surplus

AND AGREED that this Amendment will take effect on the date approved and will expire June 30, 1986.

A quorum for this Bande
Pour cette bande le quorum est

consists of V (five)
fixé à

Council Members
Membres du Conseil

Carl Lee
(Councillor - conseiller)
Robert Smith
(Councillor - conseiller)

Harold Pine
(Chief - Chef)
(Councillor - conseiller)

Ed Little
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE					
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A. Capital B. Revenue - Revenu		3. Expenditure Dépense \$ 13,000	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens	5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenu
6. Recommended - Recommandable			Approved - Approuvable		
<i>14/7/85</i> Date <i>[Signature]</i> Head of Band Operations Recommending Officer - Recommandant			<i>[Signature]</i> Date District Manager Approving Officer - Approuve par		



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

Your file Votre référence

Our file Notre référence

S. Peltz
Head Finance & Administration
Prince George District

Re: _____ Band

Capital Project # _____

Title: _____

Amount: _____

I attach the following documents: 1) B.C.R. # _____
2) Cash Flow and a 3) P.I.C.D.


The following requirements have been met:

For An Advance:

- _____ Technical Terms & Conditions have been agreed to by the Band.
- _____ The scope of the work proposed is technically feasible.
- _____ The cost estimate is appropriate.
- _____ The Cash Flow is reasonable.
- _____ An initial cash advance of \$ _____ is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- _____ 1983-84 Audit has been received and reviewed.
- _____ Certificate of Progress & Expenditure Report attached. (Band)
- _____ Project Progress & Expenditure Report attached. (Project Officer)
- _____ Terms & Conditions have been met, and the Band has performed the specified service.
- _____ Release further funds in the amount of \$ _____ for the above Capital Project.


RECOMMENDATION - DIST. SUPT.
Canada BAND OPERATIONS

DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 OF THE F.A.A.

COPY 2 RCM
COPIE 2 GCB

TRANSACTION TYPE GENRE		2
1	CERTIFY CERTIFIER	
2	CERTIFY/CONFIRM CERTIFIER/CONFIRMER	
3	NON CERTIFIED/CONFIRM NON CERTIFIER/CONFIRMER	
4	CONFIRM/ADJUST CONFIRMER/REDRESSER	
5	ADJUST. REDRESSER	

RESP. CTR. MGR. ADMIN. CTR. RESP.	3 5 <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	CERTIFICATE NO. N° DE CERTIFICAT	7 <div style="border: 1px solid black; height: 20px; width: 100%;"></div>	Coordonnées de la Loi sur l'accès à l'information	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
TYPE OF OBLIGATION GENRE D'OBLIGATION			ID NO. N° D'OBLIGATION		
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;">2029</div> <div style="border-top: 1px solid black; height: 80px; margin-top: 5px;"></div> </div>			<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;">3039</div> <div style="border-top: 1px solid black; height: 80px; margin-top: 5px;"></div> </div>		
EXPLANATION EXPLICATION					
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;">4059</div> <div style="border-top: 1px solid black; height: 80px; margin-top: 5px;"></div> </div>					
SUPPLIER-CONTRACTOR FOURNISSEUR					
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;">6084</div> <div style="border-top: 1px solid black; height: 80px; margin-top: 5px;"></div> </div>					
COMPLETION DATE DATE D'ACHÈVEMENT					
<div style="border: 1px solid black; padding: 5px;"> <div style="display: flex; justify-content: space-between;">65 Y-A81D-J90</div> <div style="border-top: 1px solid black; height: 80px; margin-top: 5px;"></div> </div>					

[illegible]

COMMENTS OBSERVATIONS

S 248
6014
VCC 370

Completed by **Enghar**

Responsibility Centre Manager
Administrateur de centre de responsabilité

Certified pursuant to section 25 of the Financial Administration Act that funds are available.
Certifié en vertu de l'article 25 de la loi sur l'administration financière que des fonds sont disponibles.



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

June 3, 1985

Your file Votre référence

Our file Notre référence

E4380-614

S. Peltz
Head Finance & Administration
Prince George District

Re: Necoslie Band

Capital Project # 51876

Title: Necoslie Sewer Extension

Amount: 76,000

I attach the following documents: 1) B.C.R. # 985/614-07 (85/86)
2) Cash Flow and a 3) P.I.C.D.


The following requirements have been met:

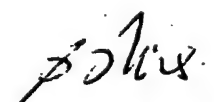
For An Advance:

- ☒ Technical Terms & Conditions have been agreed to by the Band.
- ☒ The scope of the work proposed is technically feasible.
- ☒ The cost estimate is appropriate.
- ☒ The Cash Flow is reasonable.
- ☒ An initial cash advance of \$ 30,000 is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- ☐ 1983-84 Audit has been received and reviewed.
- ☐ Certificate of Progress & Expenditure Report attached. (Band)
- ☒ Project Progress & Expenditure Report attached. (Project Officer)
- ☒ Terms & Conditions have been met, and the Band has performed the specified service.
- ☒ Release further funds in the amount of \$ 46,000 for the above Capital Project.


RECOMMENDATION - DIST. SUPT.
Canada BAND OPERATIONS


DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 OF THE F.A.A.

A0430857_14-000851

June 13, 1985

E4380-614 (010)

Necoslie Band
P.O. Box 1329
PORT ST. JAMES, B.C.
V0J 1P0

RE: 985/614-07 (85/86)

Enclosed please find an approved copy of the abovementioned Band
Council Resolution for your files.

Yours truly,

JOAN BROWN
BAND OPERATIONS CLERK
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
PRINCE GEORGE, B.C.
V2L 4X3

Enclosure

CONTRIBUTION AGREEMENTS

Released under the Access

District Office Prince George Contribution Agreement/BCR # 985/614-07 (85/86)
 Program Band Operation Originator's Signature Joseph Brown
 Recipient Necoslie Date of Contribution Agree. May 17, 1985
 Value of this Contr. Agree. \$ 76,000.00 Date Contribution Agree./BCR June 3, 1985
 Prior Agreements for this purpose \$ Nil Received in District Office
 Total - This Purpose \$ 76,000.00

All other Agreements - Year to Date for this Band \$ 1,346,586.00

Total Value of Contribution Agreements/BCR to date \$ 1,422,586.00

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations *		Please recommend	03.06.85	4/6/85	BP
Head, Finance & Admin			2/10/85	4/6/85	BP
District Manager		please approve. BP			

* If the time between date in and date out exceeds two working days, provide reason below:

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Director, Band Ops					
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
Finance					
Director of Operations					
Regional Director Gen.					

* If the time between date in and date out exceeds two working days, provide reason below:

CONTRIBUTION ARRANGEMENT

CHECKLIST

Band: Necoslie

BCR# 614-07 (85/86)

T.B. Mandatory Financial Requirements

- ☐ Recipient clearly identified?
- ☐ Acceptable expenditure plan broken down by Program/Activity?
- ☐ Purpose of Contribution?
- ☐ Duration (Expire March 31, 1986 subject to any other conditions)?
- ☐ Annual Audit (June 30, 1985)?

Method of Payment

- ☐ Maximum 3 month Cash Advance at any one time?
- ☐ Quarterly or more frequent Financial Reports within 90 days following the period to which they apply?
- ☐ Cash Flow? (Needed to verify advance requirements)
- ☐ No further advance payment if Financial Report not received within 90 days following the period to which they apply?
- ☐ Signature for Financial Certification
- ☐ Signing Date specified?
- ☐ Effective date specified?
- ☐ Conditions for final payment? (Ensure condition may be waived at discretion of District Manager)
- ☐ If comprehensive or consolidated conditions for inter-activity transfers?
- ☐ Specific Termination provisions?
- ☐ Amount of Contribution?

P.M.'s initials

Head Fin. & Admin.

Date

Other Requirements

- ☐ Operational Reports?
- ☐ If Capital is fully Authorized P.I.C.D. Attached?
- ☐ Are Technical Terms and Conditions attached?
- ☐ Signing Authority Level? ☒ D.M. ☐ D.O. ☐ H.Q.
- ☐ If Recipient not a Band, evidence it is a Legal Entity?
- ☐ Are V.C.C. Service Code, Service Number, noted?
- ☐ Will the Contribution Agreement achieve the desired impact?
- ☐ Is this the best use of all allocated funds?
- ☐ Is there a more effective way to achieve the Bands', Associations or individuals goal?

Program Manager

Date

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

Chronological No. - Numero consecutivo

to Information Act

985/614-07 (85/86)

File Reference: — No de réf. du dossier

E4215-4-614; E4380-614

NOTE: The words "From our Band Funds" "Capitals" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds

NOTA: Les mots "des fonds de notre bande "Capital" ou revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE		Current Capital Balance	
LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE INDIAN BAND	81251	Solde de capital \$
AGENCY			
DISTRICT	PRINCE GEORGE DISTRICT		Committed - Engagé \$
PROVINCE			
	BRITISH COLUMBIA		Current Revenue balance
PLACE			Solde de revenu \$
NOM DE L'ENDROIT	FORT SAINT JAMES		Committed - Engagé \$
DATE	17	05	AD 19 85
	DAY - JOUR	MONTH - MOIS	YEAR - ANNEE

DO HEREBY RESOLVE:

DÉCIDE, PAR LES PRÉSENTES:

AND REQUEST a Contribution in the sum of \$76,000.00, which is required for the following Capital Project:

NECOSLIE SEWER EXTENSION

AND THAT we agree to administer these funds in accordance with the attached Technical Terms and Conditions, Expenditure Plan, and Cash Flow Forecast.

AND THAT we agree to administer these funds in accordance with our Local Service Agreement, dated June 10, 1980.

AND THAT these funds are required for the fiscal year ending March 31, 1986.

AND THAT we agree, the Band will report its expenditures, at least quarterly, for each of the services for which amounts have been specified in the approved budget and attached Schedule(s) of this Arrangement. The expenditure reports will be provided to the Department within 90 days following the period to which they apply.

AND THAT this Agreement will take effect on the date approved and will terminate on June 30, 1986.

A quorum for this Bande
Pour cette bande le quorum est
consists of FIVE (05)
fixé à
Council Members
Membres du Conseil

TO CERTIFY THAT THIS CONTRIBUTION ARRANGEMENT MEETS THE FINANCIAL REQUIREMENTS OF T.B. MINUTE 793872	
<i>Hoers</i>	7/6/85
FINANCIAL OFFICER	DATE
VCC/CC#	0390 80507
CAP. PROJ#	51876
SC/MIP#	6014 S-248
AMOUNT	\$ 76,000 -

Carlson
Councillor - councillor
Ed. L. L. L.
(Councillor - councillor)

CAR. P. 11
 SC/MP#
 AMOUNT

(Chief - Chef)
 (Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor – conseiller)

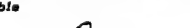

(Councillor – conseiller)

(Councillor – conseiller)

(Councillor – conseiller)

(Councillor = *conseiller*)

(Councillor – conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses \$ 76,000	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens
	A. Capital \$	B. Revenue - Revenu \$		
5. Source of Funds Source des fonds Capital <input type="checkbox"/> Revenue <input type="checkbox"/>				
6. Recommended - Recommandable			Approved - Approuvable	
 Head of Band Operations 4/6/85 Date			 A/District Manager 12/6/85 Date	
Recommending Officer - Rec			Approving Officer - Approuvé par	

DISTRICT CAPITAL PROJECT MANAGERCAPITAL PROJECT PROGRESS REPORT

Project No: 51876.

File: E

Project Title: NECOSLIE SEWER EXTENSION

Amount: \$ 76,000.

Date Inspected/Reviewed

JUNE 4, 1985

Inspected/Reviewed by

T. K. THIEN.Physical Progress to date

- Sanitary sewer mains installed between existing main on Fort Street.

across Highway 27, along Necoslie Road and into the new 12 lot Necoslie

Road subdivision.

- Watermain install from existing watermain along Necoslie Road into new

12 lot subdivision.

- Sewer servicing of 4 existing houses adjacent the Necoslie Road/Highway 27

intersection and 11 lots in the new subdivision.

- Water servicing of 11 lots in the new subdivision.

- Regrading of existing drainage ditch along Kwah Road.

Comments/Recommendations

All works identified under the Contribution Arrangement
100%.
are completed as of June 4, 1985.

RELEASE OF FULL AMOUNT - \$76,000 IS

RECOMMENDED.

[Redacted Signature]
District Project Manager

JUNE 5, 1985

Date

DOC REF TCC114

SCHEDULE "I"
TECHNICAL TERMS AND CONDITIONS
TO THE CAPITAL CONTRIBUTION ARRANGEMENT
FOR
THE CONSTRUCTION OF WASTEWATER
WATER WORKS
AT
NECOSLIE INDIAN RESERVE NO. 1

The following Technical Terms and Conditions for the Construction of Wastewater and Water Works on Necoslie Indian Reserve No. 1 are pursuant to the Memorandum of Agreement between Her Majesty the Queen in the right of Canada or represented by the Minister of Indian Affairs and Northern Development and the Necoslie Band of Indians dated May 17, 1985 and shall apply to the 1985/86 contribution for the project.

I. PROJECT DEVELOPMENT

Presently there are four houses on the east site of Highway 27 and near Necoslie Road, which are not connected to the community sewage system. The houses have road access, power and water. Band Council is planning to build three (3) new houses in the vacant lots east of Highway 27 and north of Necoslie Road. It is Band Council's priority to sewer service, the four existing houses and extend water and sewer services to the property line of three vacant lots designated for the proposed new homes. A consulting engineers firm was engaged by the Band Council early this year to complete the design of the sewer system for the four existing houses and the design of the water and sewer services to eleven housing lots east of Highway 27 and north of Necoslie Road. The cost of the engineering services was charged to the surplus funds from the 1983/84 Capital Project #51109.

Under the current 1984/85 fiscal year, District Capital Funds in the amount of \$76,000 are available for this project. It is Band Council's priority to use the surplus funds from the Project #51109 and the current budget of \$76,000 to construct the sewer system for the four existing houses and extend water and sewer services to at least three vacant housing lots.

II SCOPE OF WORK

The work in this Contribution Arrangement includes:

- 420 m of 200 mm Ø sewer main;
- 18 vm of 1050 mm Ø man-hole;
- 18 m of highway crossing;
- 230 m of sewer services;
- 4 clean-outs
- 25 m of water service line including curb stops, corp. stops.

The construction of the above shall be in accordance to the plans and specifications prepared by Urban System Ltd. dated April 1985.

III GENERAL

1. PROJECT MANAGER

The Band Council will appoint Chief Councillor James Prince as the full-time Project Manager for the project so as to ensure the project is implemented in accordance with the Technical Terms and Conditions and that the constraints of cost, quality, and the time are met. Terms of Reference for the Project Manager are attached as Schedule "II" herein.

2. PROJECT OFFICER

Mr. T. K. Thien has been appointed by the Director of Engineering and Architecture to work in co-operation with the Project Manager and to assist in technical monitoring of the progress of the works. Terms of Reference for the Project Officer are attached as Schedule "III".

IV. REQUIREMENTS OF THE BAND

1. Award a construction contract for the wastewater and water works after a public tender.
2. Retain a firm or firms of consulting engineers licensed to practice in the Province of British Columbia, to provide the construction administration and supervision during construction of the wastewater and water works.
3. When entering into contract with the Consultant and Contractor to use contract form(s) satisfactory to the Department.
4. To provide to the Project Officer every opportunity for him to assist and advise the Band in the successful completion of the project.
5. Upon completion of the project and prior to the release of the final payment, the Band Council shall provide the Department when applicable with a statutory declaration attesting all claims and accounts against the project have been paid.
6. Agree that any funds contributed to the Band under this contribution and not spent on the project in accordance with the scope of work are to be held by the Band, until advised by the Department, on what Capital Project in the community of Necoslie they may be spent.
7. Agree that the Project Officer, in consultation with the Project Manager only may decide on what constitutes a charge against the Project.
8. Contribution funds are deposited in an account to be used only for this project. The only cheques to be written on it are to be those for expenses incurred with respect to the project.

V. REQUIREMENTS OF THE DEPARTMENT

1. Expediously review the drawings and reports as required so as to cause no delay.
2. Process valid progress payments expeditiously so as not to detrimentally affect project financing and completion schedules.

VI. RECORDS

1. The Band Council shall maintain a filing system in which is a copy of Minutes of Band Council meetings, all By-laws, and copies of vouchers, bank statements, cancelled cheques and correspondence relating to business of the Band in administering and carrying out the planning and implementation of approved Capital Project. The Department will have the right of access at all reasonable hours to all financial and other records mentioned above.
2. The Band Council shall establish and maintain an acceptable accounting and bookkeeping system that includes a general ledger from which costs can be extracted.
3. The Band shall have approved by the Department acceptable policies and procedures pertaining to financial management internal control.
4. The Band Council will prepare:
 - (a) Bank Account Reconciliations upon receipt of bank statements and cancelled cheques.
 - (b) Monthly listings of Accounts Receivable and Accounts Payable balanced to General Ledger control accounts.

VII METHOD OF PAYMENT

Payment will be based on estimated cash flows plan attached as Schedule "V". An amount equal to the first month's cash required shall be advanced to the Band as the working capital towards this project. Subsequent payment will be released on a regular progress draw basis supported by certified claims.

VIII TERMINATION

The Project Officer may terminate the project if in his opinion the work being performed:

- endangers the rights, health and safety of any persons,
- constitutes mismanagement of program.

- 6 -


COUNCILLOR


COUNCILLOR


COUNCILLOR


COUNCILLOR


COUNCILLOR

COUNCILLOR

COUNCILLOR

COUNCILLOR

WITNESS

WITNESS

SCHEDULE "II"
TERMS OF REFERENCE
FOR
PROJECT MANAGER

The following will be the responsibilities of the Project Manager:

- 1. To manage the project to full Band and Department satisfaction.**
- 2. To identify areas in which technical assistance is required.**
- 3. To comply with the following guidelines of the Department of Indian Affairs and Northern Development:**
 - DRM 10-7/42.5 "Guidelines for the Preparation of Contribution Arrangements with Band Councils".**
 - DRM 10-7/37 "Construction Contracting Guidelines for Band Councils".**
- 4. To make prompt payments to Consultant on all invoices in accordance with terms agreed.**
- 5. To cooperate with Project Officer on unforeseen problems, job conditions and all situations requiring negotiation for the mutual interest of an early and satisfactory completion of the work.**
- 6. To keep complete and appropriate records on the Project.**
- 7. To ensure monthly financial reporting to the Project Officer.**
- 8. To assist and participate in the post-evaluation of the project.**

SCHEDULE "III"

**TERMS OF REFERENCE
FOR
PROJECT OFFICER**

The following will be the responsibilities of the Project Officer:

- 1. To ensure the satisfactory completion of the project on schedule and within estimated cost.**
- 2. To provide advice to the Band and the Project Manager in all phases of the project.**
- 3. To determine with the Project Manager the technical services to be provided by I.N.A. and arrange for the provision of those services, particularly:**
 - Prepare terms of reference for the Band/Project Manager.**
 - Monitor or review project work and progress and advise the Band re quality, acceptance, etc.**
- 4. To ensure the Contribution Arrangement provides for:**
 - (a) Conformance with appropriate standards, codes regulations.**
- 5. To evaluate Band performance on this project and report to Responsibility Centre Manager.**
- 6. To participate in project evaluation.**

SCHEDULE "V"

PROJECTED CASH FLOW PLAN

<u>May 1985</u>	<u>\$30,000</u>
<u>June 1985</u>	<u>\$46,000</u>

Region - Région		District		RCM - GCR		CCM	
Project - Programme		Band - Bande		Loi sur l'Accès à l'information		Band No. - N° de bande	
Reserve - Réserve		Project Name - Titre de projet		Project No. - N° de projet		Date	
Necessitie - Sewer Extension		Necessitie		511181716		8 15 0 14 2 19	
Present Use of Form		(1) Project Identification		(3) Project Change		(5) Annual Implementation App.	
Utilisation actuelle de la formule		Identification du projet		Modification de projet		App. annuelle d'exécution	
Administered by		Band		District		Region	
Administré par		Bande		District		Région	
Project Scope - Portée du projet		Start Date - Date de départ		Comp. Date - Date d'ach.			
G 4 Facility Type		8 15 0 14 2 19		8 15 1 10 3 11			
Design and construction of sewer extension to service existing four homes and future eleven (11) housing lots east of the highway near Necoslie Road.							
Project Substantiation - Justification du projet							
<input checked="" type="checkbox"/> New <input type="checkbox"/> Replacement o Existing four homes are without sewage disposal. o Due to impervious soils and high water table, on-site sub-surface disposal is not feasible. o Provide additional serviced lots for future housing.							
Special Factors - Facteurs particuliers							
1. Sewer will be connected to village of Port St. James sewerage. 2. T.K. Thien is the Project Officer.							
Re: Project Change		Present Approval - Déjà approuvée		Increase Requested - Augmentation demandée		Expenditure to Date - Fonds dépensés à ce jour	
Objet: Modification							
Project Cost/Funding - Coût/Financement du projet				Expenditure Plan - Plan des dépenses			
Estimate Class		Year		PV		Current	
Cat. de prévisions		Année		C.P.		Courants	
Date						\$ 000	
						INAC	
						Bande & Other	
						Bande & Autres	
Capital		Annual O & M		Previous Years			
Immobiliation \$ 000		Annuels F & E		Années antérieures			
Funding Source		Constant \$ 000		CY			
Source de fonds		PY		A.C.			
INAC - MAINC		A.P.		8 5 8 6		75 0	
Band - Bande							
TOTAL		75 0		TOTAL		75 0	
Project Recommendation/Project Change Approval - Recommandation du projet/Approbation de modification							
Identification Number		Date		Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.		Date	
Numéro de l'identification		Y-A M DJ		Program Manager - Gestionnaire du programme		Date	
				Regional Director of E & A - Directeur régional de G. et A.		Date	
Level		Parent Project Number		Project Manager/Officer - Gestionnaire/Chargé de projet		Date	
Niveau		Numéro à projet parent		Regional Director-General - Directeur général régional		Date	
				Director, Capital Mgt. (HQ) - Directeur, Gestion des invest. (A.C.)		Date	
Approval		Approval		Assistant Deputy Minister - Sous-ministre adjoint		Date	
Approbation		Approbation					
Level		(1) Single		(2) Dependent			
Niveau		Individual					
Approval		(1) TS Preliminary		(2) TS Effective		(3) HQ Preliminary	
Approbation		C.T. Préliminaire		C.T. Effective		A.C. Préliminaire	
		(4) HQ Effective		(5) Regional		(6) Future Project	
		A.C. Effective		Régionale		Projet prévu	
Project Expenditure Authorization - Autorisation des dépenses du projet							
I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan.				Director of Finance - Directeur des Services financiers			
Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.				Date			
PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5/FD-21 authority is given to the undersigned Project Manager/Officer to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document. Confirmation is given that the expenditure level has been mutually agreed by the project manager and myself.				Responsibility Ctr. Manager - Gestionnaire du ctr. de responsabilité			
AUTHORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES: En vertu de DF-5 DF-21, le gestionnaire chargé de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plan des dépenses.				Date			
				Project Manager/Officer-Gestionnaire/Chargé de projet			
				Date			


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CONSULTING ENGINEERS AND PLANNERS

81406

WEEKLY PROGRESS REPORT

JOB No.

F659-4

 Released under the Access
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l'information

PROJECT NEW SUB. & SEWERMAIN EXT. WEEK ENDING MAY 31 19 85.
 LOCATION NECOSLIE ROAD COMPLETION DATE 19
 OWNER NECOSLIE INDIAN BAND CONTRACTOR GRIZZLY CONTRACTING
 WEATHER CLEAR & WARM +15 - +20 °C

ENGINEERING; (CLIENT DIRECTIVES, DESIGN CHANGES, TESTS, INSTRUCTIONS, ETC.)

TESTING - ALL SEWERMAINS TESTED & PASSED.
 - WATER LINE TESTED & PASSED.

CONTRACTOR; (INCLUDE MEN & EQUIPMENT, WORK PERFORMED, AREAS OF WORK, ETC.)

- SEWER & WATER SERVICES COMPLETE TO LOTS 5 TO 9 & ^{LOT} HOUSE #4 SEWER
- SEWER MAIN COMPLETE ALONG HIGHWAY ACCESS ROAD TO P150 C/O
- SEWER SERVICES COMPLETE TO HOUSES #2, 3, & 4
- HYDRANT INSTALLED
- FINAL CLEANUP COMPLETE (SITE GRADED & DITCHED)
- HIGHWAY ACCESS ROAD REGRAVELLED
- CAT 235 H&E / FINTELLIS LOADER / JD CAT DOZER / 6 MEN

GENERAL COMMENTS; (DISCUSS PROGRESS, QUALITY OF WORK, DISCUSSIONS, MEETINGS, ETC.)

GOOD WORK

- FINAL INSPECTION BY COUNCILLORS KARL LEON & ART, BRIAN SIMON (USE)
- HIGHWAYS DEPT. OFFICIAL FROM VANDERHOOF OFFICE INSPECTED
DITCHING ETC. ON HIGHWAY PROPERTY & ACCEPTED RESTORATION
- PROJECT IS 100% (MEANS MAY 31/85) PENDING RESULTS OF
WATER SAMPLE TESTS NEXT WEEK.

FORCE ACCOUNT; (GIVE DETAIL OF EXTRA WORK AUTHORIZED)

- INSTALL \$400 CMP AT INTERSECTION
NECOSLIE ROAD & NEW SUBDIVISION ROAD
- CHECK VALVE & MAIN @ KWAN RD. & HIGHWAY ACCESS RD. WEST SIDE.
- INSTALL CULVERTS & REDITCH ALONG SOUTH SIDE KWAN RD.
& FORT ST. TO CULVERT CROSSING

 DISTRIBUTION NECOSLIE INDIAN BAND

- ATTN. JAMES T. PRINCE
- GARY / F659-4
- FEE T.K. THIL - JMC

 DATE MAY 31 19 85.


RESIDENT ENGINEER

urban systems ltd.

CONSULTING PLANNERS AND ENGINEERS

7 St. Paul Street West
Kamloops, B.C. V2C 1E9
Telephone (604) 374-8311
Telex 048-3283

214 - 1526 Richter Street
Kelowna, B.C. V1Y 2M3
Telephone (604) 762-2517
Telex 048-5108

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l'information
140 - 2723 - 37th Ave. N.E.
Calgary, Alberta T1Y 5R8
Telephone (403) 291-1193

TO Necotie Indian Band FROM
At. Chief James T. Price

301 - 280 Victoria Street
Prince George, B.C. V2L 4Z3
Telephone (604) 563-1406
Telex 047-7132

SUBJECT	REF.	DATE
Necotie Band Services + Services	F659-4	June 5/85
MESSAGE		
<p>Attached please find a Certificate of Progress at Expenditure T.K. them has asked me to pass onto you for signature by yourself and Ken Peters. After signing please return it to TK.</p>		

REPLY	DATE
<p>CK TK</p>	

BAND ADMINISTERED CAPITAL PROGRAM

CERTIFICATE OF PROGRESS AND EXPENDITURE

We, the NECOSLIE Band Council, operating with a capital contribu-
tion of \$ 76,000 for the fiscal year 1985/86, under the Band
Administered Capital 51876 Program of the Department of Indian
Affairs and Northern Development, hereby certify that we have expended or committed
\$ _____ of the approved contribution amounting to \$ 76,000.
Our expenditure to date has been in strict accordance with the regulations under the
Band Administered Capital 51876 Program, and construction standards
meet the requirements of the Department. We request the Prince George District
Office to requisition a further \$ 76,000 of the appropriations capital
contributions to our Band for this fiscal year. Our records related to this capital
program are available to the District Staff and/or auditor for verification.

PHYSICAL PROGRESS OF PROJECT TO DATE: (Add attachments if necessary)

- SEWITARY SEWER MAINS INSTALLED BETWEEN EXISTING MAIN ON
FRT STREET, ACROSS HIGHWAY 27, ALONG NECOSLIE ROAD AND
INTO THE NEW 12 LOT NECOSLIE ROAD SUBDIVISION.
- WATER MAINS INSTALLED FROM EXISTING WATER MAIN ALONG NECOSLIE
ROAD INTO THE NEW 12 LOT SUBDIVISION.
- SEWER SERVICING OF 4 EXISTING HOUSES ADJACENT THE
NECOSLIE ROAD / HIGHWAY 27 INTERSECTION, AND 11 LOTS IN THE
NEW SUBDIVISION.
- WATER SERVICING OF 11 LOTS IN THE NEW SUBDIVISION.
- REPAIRING OF EXISTING DRAINAGE DITCH ALONG KWAM ROAD

PHYSICAL CONSTRUCTION FOR NEXT PHASE:

Signed at _____ this _____ day of _____

19__.

DISTRICT CAPITAL PROJECT MANAGER

CAPITAL PROJECT PROGRESS REPORT

Project No:

File: E

Project Title:

Amount: \$

Date Inspected/Reviewed

Inspected/Reviewed by

Physical Progress to date

- Sanitary sewer mains installed between existing main on Fort Street,
across Highway 27, along Necoslie Road and into the new 12 lot Necoslie
Road subdivision.
- Watermain install from existing watermain along Necoslie Road into new
12 lot subdivision.
- Sewer servicing of 4 existing houses adjacent the Necoslie Road/Highway 27
intersection and 11 lots in the new subdivision.
- Water servicing of 11 lots in the new subdivision.
- Regrading of existing drainage ditch along Kwah Road.

Comments/Recommendations

District Project Manager

Date



June 6, 1985

81578

JUN -7 AIO :41

Our File: F659-04

Necoslie Indian Band
Box 1329
FORT ST. JAMES, B.C.
VOJ 1P0

Attention: Chief J. Prince

Dear Sir:

Re: Necoslie Road New Subdivision and Sewermain Extension

Enclosed please find Progress Estimate #1 (final) dated May 31, 1985 in the amount of \$87,048.40, covering work performed by Grizzly Contracting Ltd. on the above referenced project between May 15th and May 31st, 1985.

A 10% holdback in accordance with the Builder's Lien Act has been deducted from the above amount leaving \$78,343.56 due and payable to the Contractor.

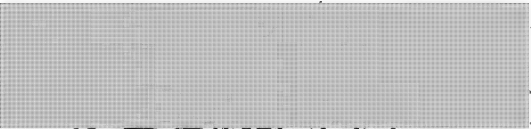
We recommend payment be made directly to the Contractor on or before June 20, 1985. We will advise you in writing when to release the 10% holdback money.

Also enclosed please find four (4) copies of the Construction Completion Certificate dated May 31, 1985 for the above referenced project, for your signature. This certificate establishes the 45 day Builder Lien and one year maintenance period which expire July 15, 1985 and May 31, 1986 respectively.

Please sign all four (4) copies on the lines marked with a red "X", retain one (1) copy for your files and return the other three (3) to our office for distribution.

Should you have any questions, please do not hesitate to call.

Yours truly


cc: Mr. T.K. Thien
Mr. J. Kurkiniemi
~~Mr. J. Goldie~~
Grizzly Construction Ltd.

SUBSTANTIAL COMPLETION

AND

CONSTRUCTION COMPLETION CERTIFICATES

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PROJECT NECOSLIE ROAD NEW SUBDIVISION AND SEWERMAIN
EXTENSION. JOB NO. F659-04

LOCATION NECOSLIE INDIAN RESERVE NO. 1

OWNER NECOSLIE INDIAN BAND

CONTRACTOR GRIZZLY CONTRACTING LTD., 5509 Moriarty Place, Prince George, B.C.

PROJECT DESCRIPTION INSTALLATION OF SEWERMAIN FROM EXISTING MAIN ON FORT STREET, ALONG
NECOSLIE ROAD AND INTO NEW 12 LOT SUBDIVISION. INSTALLATION OF WATERMAIN INTO SUBDIVISION.
WATER AND SEWER SERVICES TO 11 NEW SUBDIVISION LOTS AND SEWER SERVICING OF 4 EXISTING HOUSES

SUBSTANTIAL COMPLETION

I, D.B. McKERRACHER, P.Eng. of the firm of Urban Systems Ltd.,
Consulting Engineers, hereby certify that the project described above has been
constructed according to Specifications and is complete as defined by the
Contract Documents. I hereby recommend this project be accepted as
substantially complete and hereby state the facilities may be used for the purpose
for which they were intended.

LIST OF DEFICIENCIES NIL

Holdback for deficiencies will be as specified in Article 47 of the General
Conditions within the Contract Documents.



P. Eng. Seal



PROJECT ENGINEER
AUTHORIZED COMPANY
OFFICIAL

Urban Systems Ltd.

MAY 31

19 85 DATE

APPROVED ON _____ 19 _____

OWNER OR OWNER REPRESENTATIVE

CONSTRUCTION COMPLETION

I hereby certify that the items listed as deficiencies have now been corrected
and recommend that this project be accepted as complete.



P. Eng. Seal

DATE MAY 31 19 85



PROJECT ENGINEER

APPROVED ON _____ 19 _____

OWNER OR OWNER REPRESENTATIVE

APPROVED ON _____ 19 _____

APPROVING OFFICER

TITLE

MAINTENANCE PERIOD EXPIRY DATE MAY 31 19 86

A0430857_35-000872



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CONSULTING PLANNERS AND ENGINEERS

FORCE ACCOUNT RECORD

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JOB NO. FB994

PROJECT NECOSLIE RD. NEW SUBDIVISION SEWERMAIN EXT. DATE MAY 29, 1985

LOCATION KWAKW W. NECOSLIE RD. SUBDIVISION

OWNER NECOSLIE INDIAN BAND AUTHORIZED BY CHIEF JAME T. PRINCE

CONTRACTOR GRIZZLY CONTRACTING AUTHORIZATION DATE MAY 24, 1985

DESCRIPTION OF EXTRA WORK

INSTALL 400 CMP CULVERT AT JUNCTION NECOSLIE RD.
NEW SUBDIVISION RD.

EQUIPMENT

TYPE, MAKE AND MODEL	HOURS	RATE	AMOUNT
235 CAT H&E	1	130 ⁰⁰	130 ⁰⁰
TOTAL			130 ⁰⁰

LABOUR

NAME	OCCUPATION	STRAIGHT TIME		OVERTIME		AMOUNT
		HOURS	RATE	HOURS	RATE	
	PIPELAYER	1	38 ⁰⁰			38 ⁰⁰
TOTAL						38 ⁰⁰

SUPPLIES AND MATERIALS

DESCRIPTION	UNIT	QTY.	PRICE	AMOUNT
18m. OF 400 CMP	m.	18	45 ⁰⁰	810 ⁰⁰
COLLARS	EA.	2	35 ⁰⁰	70 ⁰⁰
SUB TOTAL				880 ⁰⁰
PLUS 20% OVERHEAD AND PROFIT ON SUPPLIES & MATERIALS ONLY				INCL. ABOVE
TOTAL				880 ⁰⁰

I HEREBY CERTIFY THAT THE HOURS FOR LABOUR
AND EQUIPMENT WERE EXPENDED ON, AND THAT
THE MATERIALS WERE INCORPORATED INTO THE
WORK DESCRIBED ABOVE.

No 1000

FOR



FOR CONTRACTOR.

A0430857_36-000873

TOTAL

1048⁰⁰



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FORCE ACCOUNT RECORD

NOT RECORDED
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JOB No. Loi sur l'Accès à l'information F659-4

PROJECT NECOSLIE RD. NEW SUBDIVISION ¹SEWER MAIN EXT. DATE MAY 30, 19 85.
LOCATION KWAH RD.

OWNER NECOSLIE INDIAN BAND AUTHORIZED BY CHIEF J.T. PRINCE
CONTRACTOR GRIZZLY CONTRACTING AUTHORIZATION DATE MAY 24, 1985

DESCRIPTION OF EXTRA WORK

- REPAIR VALVE @ S/W CORNER KWAN RD. & HIGHWAY
- INSTALL CULVERTS & DITCH ALONG SOUTH SIDE KWAN RD.
TO CULVERT CROSSING DUTCH ON FORT STREET

EQUIPMENT

TYPE, MAKE AND MODEL	HOURS	RATE		AMOUNT	
CAT 235 H&E	7.5	130	~	975	~
FIAT ALLIS LOADER	1.5	80	~	120	~
TOTAL				1095	~

ABOUT

[illegible]

SUPPLIES AND MATERIALS

DESCRIPTION	UNIT	QTY.	PRICE		AMOUNT	
Ø 400 CMP	M.	44	45	~	1980	~
COLLAR	EA.	1	35	~	35	~
GRAVEL	LOADS	5	35	~	175	~

SUB TOTAL

PLUS 20% OVERHEAD AND PROFIT ON SUPPLIES & MATERIALS ONLY

TOTAL

I HEREBY CERTIFY THAT THE HOURS FOR LABOUR
AND EQUIPMENT WERE EXPENDED ON, AND THAT
THE MATERIALS WERE INCORPORATED INTO THE
WORK DESCRIBED ABOVE.

№ 1002

FOR



FOR CONTRACTOR.

A0430857 37-000874

TOTAL

3555 8


urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

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PROGRESS ESTIMATE

 JOB NO. F659-04

 PROJECT NAUTLEY ROAD NEW SUBDIVISION AND SEWERMAIN EXTENSION ESTIMATE NO. 1 (FINAL)

 LOCATION NECOSLIE INDIAN RESERVE NO. 1 DATE May 31 19 85

 OWNER NECOSLIE INDIAN BAND COMPLETION DATE JUNE 15 19 85

 CONTRACTOR GRIZZLY CONTRACTING LTD. PAGE 1 OF 5

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAYT	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.0 Sewermain Extension							
1.1 Ø200 PVC SDR35 Sewermain							
0-3.0m deep	m	187	-	187	53 00	9911 00	9911 00
3.0-4.0 deep	m	240	-	240	58 00	13920 00	13920 00
4.0-5.0 deep	m	-	-	-	-	-	-
1.2 Ø450 CMP Encasement under highway	m	18	-	18	200 00	3600 00	3600 00
1.3 Backfill Highway crossing	LS				2000 00	2000 00	2000 00
1.4 Patching Highway crossing	LS				1500 00	1500 00	1500 00
1.5 Ø1050 Manholes							
1.5.1 Manhole Bases	ea	6	-	6	600 00	3600 00	3600 00
1.5.2 Manhole lids, frame & cover	ea	6	-	6	400 00	2400 00	2400 00
1.5.3 Manhole barrels	Vm	18.3	-	18.3	360 00	6588 00	6588 00
1.6 Expose & Prepare Existing Main	LS	100%	-	100%	500 00	500 00	500 00
				TOTAL			

REMARKS

 RETENTION _____ %
 BALANCE
 PREVIOUS BALANCE
 AMOUNT DUE

A0430857_38-000875



PROJECT ENGINEER

RESIDENT INSPECTOR



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

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PROGRESS ESTIMATE

JOB NO. F659-04

PROJECT _____ ESTIMATE NO. _____
LOCATION _____ DATE May 31 19 85
OWNER _____ COMPLETION DATE _____ 19 _____
CONTRACTOR _____ PAGE 2 OF 5

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.7 Sanitary Sewer Services							
1.7.1 Main Connections							
.1 to Manhole	ea	4	-	4	150 00	600 00	600 00
.2 Ø150 Main	ea	1	-	1	75 00	75 00	75 00
.3 Ø200 Main	ea	9	-	9	75 00	675 00	675 00
1.7.2 Ø150 Service Main	m	101	-	101	44 00	4444 00	4444 00
1.7.3 Ø100 PVC SDR 28 service	m	222	-	222	40 00	8880 00	8880 00
1.7.4 Cleanouts							
.1 Ø150 cleanouts	ea	1	-	1	250 00	250 00	250 00
.2 Ø100 cleanouts	ea	4	-	4	150 00	600 00	600 00
1.7.5 Extend services to house	ea	3	-	3	100 00	300 00	300 00
1.8 Imported Sand Bedding	m	750	-	750	5 00	3750 00	3750 00
TOTAL							

REMARKS

RETENTION _____ %
BALANCE
PREVIOUS BALANCE
AMOUNT DUE

A0430857_39-000876



PROJECT ENGINEER

RESIDENT INSPECTOR



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

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l'information

PROGRESS ESTIMATE

JOB NO. F659-04

PROJECT _____ ESTIMATE NO. _____
LOCATION _____ DATE May 31 19 85
OWNER _____ COMPLETION DATE _____ 19 ____
CONTRACTOR _____ PAGE 3 OF 5

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.9 Repair Necoslie Road	LS				400 00	400 00	400 00
1.10 Clean up and Restoration	LS				1000 00	1000 00	1000 00
TOTAL SEWERMAIN EXTENSION:						64,993 00	64,993 00
2.0 New Subdivision Water System							
2.1 Ø150 PVC GL150 Watermain	m	142	-	142	53 20	7,554 40	7,554 40
2.2 Ø150 End Cap	ea	1	-	1	300 00	300 00	300 00
2.3 Ø150 Fire Hydrant Mainline connection	LS/ea	1	-	1	800 00	800 00	800 00
2.4 Ø150 Fire Hydrant & Lead	LS/ea	1	-	1	1400 00	1400 00	1,400 00
2.5 Connect to Exiting Valve	LS	100%	-	100%	200 00	200 00	200 00
TOTAL							

REMARKS

RETENTION _____ %
BALANCE
PREVIOUS BALANCE
AMOUNT DUE

A0430857_40-000877



PROJECT ENGINEER

RESIDENT INSPECTOR



Urban systems Ltd.
CONSULTING ENGINEERS AND PLANNERS

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PROGRESS ESTIMATE

JOB NO. F659-04

PROJECT _____ ESTIMATE NO. _____
LOCATION _____ DATE May 31 19 85
OWNER _____ COMPLETION DATE _____ 19 _____
CONTRACTOR _____ PAGE 4 OF 5

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
2.6 Water Service Connections							
2.6.1 Mainline Saddles, Corporation stops and Curb Stops	ea	11	-	11	190 00	2,090 00	2,090 00
2.6.2 Ø19 PE Service Pipe	m	140	-	140	6 00	840 00	840 00
2.6.3 Trenching							
.1 Common Trenching	m	65	-	65	10 00	650 00	650 00
.2 Individual "	m	63	-	63	36 00	2,268 00	2,268 00
2.7 DELETED							
2.8 Imported Sand Bedding	m	270	-	270	5 00	1,350 00	1,350 00
TOTAL NEW SUBDIVISION WATER SYSTEM:						17,452 40	17,452 40
TOTAL							

REMARKS

RETENTION _____ %
BALANCE
PREVIOUS BALANCE
AMOUNT DUE

A0430857_41-000878



PROJECT ENGINEER

RESIDENT INSPECTOR



urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

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JOB NO. _____

PROJECT _____ ESTIMATE NO. _____

LOCATION _____ DATE May 31 19 85

OWNER _____ COMPLETION DATE _____ 19 _____

CONTRACTOR _____ PAGE 5 OF 5

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
SUMMARY:							
TOTAL - Part 1.0 Sewermain Extension						64,993 00	64,993 00
TOTAL - Part 2.0 New Subdivision Water System						17,452 40	17,452 40
						-----	-----
TOTAL:						82,445 40	82,445 40
PROVISIONAL CONTRACT SUM:							
USL #1000						1,048 00	1,048 00
USL #1002						3,555 00	3,555 00
TOTAL						87,048 40	87,048 40

REMARKS

PROVISIONAL CONTRACT SUM ITEMS:

USL #1000 - paid for supply and installation of 6400 CMP culvert across access into the new Necoslie subdivision.

USL #1002 - paid for supply and installation of 0400 CMP culverts across existing driveways on Kwah Road as well as regrading the existing ditch to improve drainage.

-A0430857 42-000879

RETENTION	10	%	8,704	84
BALANCE			78,343	56
PREVIOUS BALANCE				--
AMOUNT DUE			78,343	56



PROJECT ENGINEER

RESIDENT INSPECTOR

May 29th, 1985.

Necoslie Band,
P.O. Box 1329,
FORT ST. JAMES, B.C.,
V0J 1P0

E4380-614-D44

Attention: Ken Peters, Band Manager.

Dear Mr. Peters:

Re: Necoslie Sewer Project.

Thank you for your May 16th letter concerning the above capital project. It is our understanding that the Band is proceeding with construction of water and sewer to existing houses and several new lots in the Necoslie Road area, at a total cost of \$101,000. This includes the cul-de-sac road extending north from Necoslie Road.

In order to cover the increased cost of the project, the Band is utilizing \$12,000 in Band Revenue Funds, and is proposing to use the surplus of \$13,000 from the 1984/85 Necoslie Water System Project.

As these works are within the agreed upon scope of the Necoslie Road Sewer Project, the District has no objection to the use of the above surplus for these purposes.

With regard to the remaining shortfall of \$12,000, the District will attempt to increase the current year contribution for the project, in the event that funds become available. If this is not possible, then we would consider this expenditure to be part of the Band's requirements for 1986/87 to be funded from that year's capital budget.

I trust this is satisfactory.

Yours truly,

JEFF GOLDIE,
HEAD, BAND OPERATIONS,
PRINCE GEORGE DISTRICT,
209 - 280 VICTORIA STREET,
PRINCE GEORGE, B.C.
V2L 4X3

cc. Thau Thien,
B.C. Region.

Telephone 996-8228

Necoslie Band Council

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to Information Act 4380

Communiqué en vertu de la
Loi sur l'accès à
l'information

P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

May 16, 1985

80400 MAY 22 A11:27

Indian And Northern Affairs
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

Attention: George Cornwell,
Acting District Manager.

Dear Mr. Cornwell:

RE: NECOSLIE CAPITAL ALLOCATION 1985/86

Necoslie Band has received seventy-six thousand (\$76,000) dollars for this years allocation. In addition, a surplus of thirteen thousand from from previous allocation with a total of eighty nine thousand dollars.

The Necoslie Road extension has been estimated at one hundred and one thousand dollars to complete the project. This leaves us with a shortfall of twelve thousand dollars. In any event, should there be surplus within the District we would appreciate we be kept in mind.

Necoslie Band has issued a band council resolution to retain the twelve thousand dollars from band revenue funds to complete this year capital project: With the understanding that these funds will be recovered in the 1986-87 Capital allocation budget.

Thank you for your co-operation and attention to this matter.

I await your reply.

Yours truly,


Ken Peters,
Band Manager.

KP/lb

c.c. T.K. Thien,
I.N.A.C. - Region



April 17, 1985

Our File: F659-4

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief James T. Prince

Dear Sir:

Re: Necoslie Road Subdivision and Sewermain Extension

Tender documents have now been submitted to Grizzly Contracting Ltd. We expect to receive their tender by Tuesday April 23, 1985; after which time we will review it and submit a formal letter of recommendation to your office concerning award.

We have prepared a cost estimate on a copy of the tender form which is attached to this letter. The proposed Necoslie Road Subdivision and Sewermain Extension is estimated as follows:

Total Sewermain Extension	\$ 75,070
Total Watermain Extension	<u>24,290</u>
Total	\$ 99,360
Add 15% Engineering and Contingencies	<u>14,940</u>
Total Estimated Project Cost	\$ 114,300

Upon review of these documents, should you have any questions please do not hesitate to call.

Yours truly,

URBAN SYSTEMS LTD.

G.S. Stickel, C.E.T.

GS/ms

enclosure

c.c. - T.K. Thien, P.Eng.

- M. Matzema

Project: NECOSLIE INDIAN BAND
NECOSLIE ROAD, NEW SUBDIVISION AND
SEWERMAIN EXTENSION

**SCHEDULE
OF
QUANTITIES**

Necoslie Indian Band
Necoslie Road New Subdivision and Sewermain Extension

Schedule of Quantities

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
1.0	<u>Sewermain Extension</u>				
	Complete the following work items in accordance with the technical specifications, design drawings and contract documents.				
1.1	Ø200mm PVC SDR 35 Sewermain c/w all labour, materials, equipment, excavation, de- watering, backfill compaction, testing and flushing, etc.				
	0 - 3.0 metres deep	m	190	<u>55</u>	<u>10,450</u>
	3.0 - 4.0 metres deep	m	160	<u>70</u>	<u>11,200</u>
	4.0 - 5.0 metres deep	m	90	<u>85</u>	<u>7650</u>
1.2	Ø450mm - 1.6mm ga CSP encase- ment pipe under Highway 27 c/w all labour, materials, carrier pipe, equipment, de- watering, traffic control, etc.	m	18	<u>300</u>	<u>5400</u>
1.3	Backfill Highway Crossing excavation with imported pit run gravel c/w all labour, materials, equipment, supply, loading, hauling, placement and compaction including disposal of material excavated from highway crossing.	LS			<u>3000</u>
1.4	Patching of Highway 27 crossing with 450mm pit run gravel, 75mm - 19mm crush gravel and 75mm hot mix asphalt c/w all labour, equipment, materials, etc.	LS			<u>2500</u>

**Necoslie Indian Band
Necoslie Road New Subdivision and Sewermain Extension**

Schedule of Quantities

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
1.5	Ø1050 Manholes c/w All Labour, materials, equipment, excavation, backfilling, compaction, de- watering, etc. as follows:				
1.5.1	Manhole Base	ea	6	<u>350</u>	<u>1800</u>
1.5.2	Manhole Lid, Frame and Cover, brickwork, and adjustment to final grade.	ea	6	<u>600</u>	<u>3600</u>
1.5.3	Ø1050 Manhole Barrels c/w waterproof grouting measured from lowest invert to bottom of lid.	vm	15	<u>250</u>	<u>3750</u>
1.6	Locate, Expose and Prepare around existing sewermain on Fort Street for construction of manhole c/w all labour, materials, equipment, breaking into existing main, dewatering, etc.	LS			<u>500</u>
1.7	Sanitary Sewer Service Instal- lation c/w all labour, equip- ment, materials, excavation, dewatering, backfill compac- tion, testing and flushing, etc.				
1.7.1	Main Connection Including wye fittings and 45° long radius bend or connecting directly into manhole.				
	.1 Connection into manhole	LS			<u>300</u>
	.2 Connection to Ø150 service main	ea	2	<u>150</u>	<u>300</u>
	.3 Connection to Ø200 main.	ea	4	<u>200</u>	<u>800</u>
1.7.2	Ø150 PVC SDR 35 Sewer Service line.	m	100	<u>50</u>	<u>5000</u>
1.7.3	Ø100 PVC SDR 28 Sewer service line.	m	230	<u>47</u>	<u>10,810</u>

**Necoslie Indian Band
Necoslie Road New Subdivision and Sewermain Extension**

Schedule of Quantities

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
1.7.4	Clean Outs				
	.1 Ø150 Clean outs	ea	1	<u>300</u>	<u>300</u>
	.2 Ø100 Clean outs	ea	3	<u>270</u>	<u>810</u>
1.7.5	Extend Sewer Service From clean out to 1.0m from house and 0.6m below ground elevation for houses without basement and 0.2m below bottom of footing elevation for houses with basements.	ea	4	<u>200</u>	<u>800</u>
1.8	Imported Sand Pipe Bedding c/w all labour, materials, equip- ment, royalties, loading, hauling, placing and comp- action, etc.	ea	800	<u>6</u>	<u>4800</u>
1.9	Repair of Necoslie Road with minimum 200mm pit run gravel in all road crossings.	LS			<u>300</u>
1.10	Cleanup and Restoration of work area upon completion of construction activities.	LS			<u>1000</u>
TOTAL SEWERMAIN EXTENSION					<u>75,070</u>

Necoslie Indian Band
Necoslie Road New Subdivision and Sewermain ExtensionSchedule of Quantities

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
2.0	<u>Subdivision Water System</u> Complete the following work items in accordance with the technical specifications, design drawings and contract documents.				
2.1	Ø150 PVC SDR 35 c/w all labour, equipment, materials, excavation, backfill, compaction, testing, chlorination, etc.	m	145	<u>58</u>	<u>8410</u>
2.2	Ø150 End Cap c/w Thrust block.	ea	1	<u>200</u>	<u>200</u>
2.3	Ø150 Main Connection for Fire hydrant including mainline tee and Ø150 HxF gate valve c/w thrust blocking and valve box and riser.	LS/ea	1	<u>800</u>	<u>800</u>
2.4	Ø150 Compression Type Fire hydrant c/w thrust blocking, excavation, backfill and max. 3.0m long Ø150 PVC CL 150 lead.	LS/ea	1	<u>1800</u>	<u>1800</u>
2.5	Locate, Expose and Connect to valve on existing Ø200 main along Necoslie Road.	LS			<u>200</u>
2.6	Ø19mm Service Connections to 11 lots in subdivision.				
2.6.1	Mainline Saddles, Corporation stops, curb stops and risers.	LS/ea	11	<u>250</u>	<u>2750</u>
2.6.2	Ø19 PE Service Pipe.	m	130	<u>15</u>	<u>1950</u>

Necoslie Indian Band
Necoslie Road New Subdivision and Sewermain Extension

Schedule of Quantities

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
2.6.3	Trenching c/w Excavation, backfill, compaction, etc.				
	.1 Common trench with sewer.	m	40	<u>20</u>	<u>800</u>
	.2 Individual trench.	m	90	<u>3.5</u>	<u>3150</u>
2.7	Ø19mm Water Services to Lots 1, 11 and 12 should main and services to other lots be deleted c/w all labour, equip- ment, materials, excavation, exposure of existing water main or service line, backfill compaction, etc.				
2.7.1	Connection to Existing watermain or service line including pipe saddle and corporation stop or compression type tee fitting.				
	.1 Ø200 main connection	ea	2	<u>300</u>	<u>600</u>
	.2 Ø19 service line connection	ea	1	<u>150</u>	<u>150</u>
2.7.2	Ø19 Curb Stop c/w Riser.	ea	3	<u>100</u>	<u>300</u>
2.7.3	Ø19 PE Service Pipe c/w trenching, backfill, compaction, etc.	m	30	<u>50</u>	<u>1500</u>
2.8	Imported Sand Pipe Bedding c/w royalties, loading, hauling, placement, compaction, etc.	m	280	<u>6</u>	<u>1680</u>
	TOTAL SUBDIVISION WATER SYSTEM				<u>24,290</u>

**Necoslie Indian Band
Necoslie Road New Subdivision and Sewermain Extension**

Schedule of Quantities

ITEM	DESCRIPTION	UNIT	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
------	-------------	------	-----------------------	---------------	----------------

SUMMARY

Total Sewermain Extension					<u>12,870</u>
Total Subdivision Water System					<u>24,290</u>
TOTAL					<u>97,160</u>
Provisional Contract Sum				\$ 3,000	
TOTAL CONTRACT AMOUNT					<u>100,160</u>



April 9, 1985

Our File: F659-4

77357 APR 11 AIO 33

Village of Fort St. James
Drawer 640
Fort St. James, B.C.
VOJ 1PO

Attention: Mr. Ian Turner
Administrator

Dear Sir:

Re: Necoslie Indian Band - Connection to Existing
Sanitary Sewer Main on Fort Street

The Necoslie Indian Band is currently tendering construction of a sewermain extension from the existing sewermain on Fort Street to and along Necoslie Road. The location of the proposed crossing is approximately 100 metres south of the Fort Street lift station.

For your information please find enclosed one print of design drawing No. U0001 upon which the proposed sewer connection is shown.

Construction of the proposed sewermain connection and extension is tentatively scheduled for the latter part of April or early May. Urban Systems will be providing full time contract management services to the Band during construction of the work.

Should you have any questions, please do not hesitate to call.

Yours truly,

URBAN SYSTEMS LTD.

Gary Stickel, C.E.T.
GS/ms
enclosure
c.c. - Chief James T. Prince
- M. Walzahn
- T.K. Thien, P.Eng.

April 1, 1985

Your file Votre référence

Our file Notre référence

E4380-614

Necoslie Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

ATTENTION: Chief and Council

Dear Council Members:

RE: Necoslie Road Sewer

The District Capital Management Committee has reviewed the most recent proposal, drafted by Urban Systems Ltd., for provision of sewage disposal to houses in the Necoslie Road area (Gary Stickel's letter to Band, March 27, 1985).

Option 3 as described in the letter is the preferred option as far as the District is concerned. This would involve a \$76,000.00 contribution in 1985/86 plus the surplus from the band's 1984/85 capital project, which should be sufficient to complete the work.

Please let me know what you decide on this matter.

Yours truly,

JEFF GOLDIE
HEAD OF BAND OPERATIONS
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

c.c. T.K. Thien, E & A, B.C. Region

Canada

76-4
USL urban systems ltd.
consulting planners and engineers
March 27, 1985

APR -1 A9E80-614

Our File: E659-4

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief James T. Prince

Dear Sir:

Re: Necoslie Road Sewer Extension

Further to our meeting on Monday March 25, 1985, with Manfred Malzahn of INAC, we have analysed development of a residential subdivision north of Necoslie Road and have prepared 3 development options and the attached sketch plans. We understand it to be the Band's desire to construct 3 houses in this area; in order to provide water and sewer servicing to these houses the following was agreed to:

- the proposed sewermain extension between Manhole No. 4 and 5 to the future Band workshop will be deleted; the equivalent length of main will be installed in the new subdivision
- the proposed Ø150 sewer service line extending to existing house No. 1 would be deleted and house No. 1 would be serviced from the proposed sewer main in the subdivision.

The estimated cost for development of 12 lots in the proposed cul-de-sac including the proposed sewermain extension from Fort Street is:

OPTION 1 - OVERALL SUBDIVISION DEVELOPMENT

1.0 SEWER SYSTEM

1.1	Ø200mm Sewermain			
	0 - 2.5m deep	120m @ \$	55	\$ 6,600
	2.5 - 4.0m deep	155m @ \$	70	10,850
	4.0 - 5.0m deep	145m @ \$	85	12,325
1.2	Ø1050 Manholes	18vm @ \$	650	11,700
1.3	Highway Crossing	18m @ \$	300	5,400
1.4	Sewer Services			
	Ø150mm service line	100m @ \$	50	5,000
	Ø100mm service line	240m @ \$	47	11,280

.../2

3/7

1.5	Cleanouts				
	Ø150 cleanouts	1	@ \$	300	\$ 300
	Ø100 cleanouts	3	@ \$	270	810
1.6	Extension of Sewer Services to 0.6m below grade or 2.0m under footing.	4	@ \$	100	400
1.7	Imported Sand Bedding	785m	@ \$	6	4,710
1.8	Locate and Expose Sanitary sewermain on Fort Street	LS			500
1.9	Repair Highway 27	LS			3,500
1.10	Restoration and Cleanup	LS			<u>2,000</u>
	Total Sewer System				\$ 75,375

2.0 WATER SYSTEM

2.1	Ø150 Watermain	145m	@ \$	58	\$ 8,410
2.2	Fire Hydrant Assemblies	2	@ \$3,000		6,000
2.3	Ø19 Services	130m	@ \$	45	5,850
2.4	Ø19 Curb Stops, Corporation stops and saddles	11	@ \$	250	2,750
2.5	Connection to Existing Main	LS			300
2.6	Imported Sand Bedding	280m	@ \$	6	<u>1,680</u>
	Total Water System				\$ 24,990

3.0 ROADWORK

3.1	Grubbing and Stripping	3,500m ²	@ \$	0.30	\$ 1,050
3.2	Earthwork	1,500m ³	@ \$	4	6,000
3.3	Subbase - 300mm Pit Run gravel	1,600m ²	@ \$	4	6,400
3.4	Base - 50mm - 19mm crushed gravel	1,300m ²	@ \$	3	3,900
3.5	Ditching	400m	@ \$	2	800
3.6	Restoration and Cleanup	LS			<u>1,000</u>
	Total Roadwork				\$ 19,150

.../3

SUMMARY

Total Sewer System	\$ 75,375
Total Water System	24,990
Total Roadwork	<u>19,150</u>
Total	\$ 119,515
Add 20% Engineering and Contingency	<u>23,885</u>

Total Estimated Sewer Main
Extension and Subdivision Development \$ 143,400

Unit Cost = $\frac{143,400}{15}$ = \$ 9,560/lot (house)

OPTION 2 - PARTIAL SUBDIVISION DEVELOPMENT

If additional funding is not available to complete overall subdivision development we understand it to be the Band's desire to reduce the project scope to include:

- installation of water and sewer mains into the proposed cul-de-sac
- sewer servicing all existing houses
- service only 3 lots in the proposed subdivision with water and sewer services terminating at the property line. We understand that lots 2, 3 and 11 are the priority development lots for house connection this year. The remaining lots would be serviced in the future when funding becomes available
- lot access by only a dirt trail along the proposed subdivision road right-of-way. Roads would be constructed in the future when funding becomes available.

The estimated cost of this reduced scale project is:

1.0 SEWER SYSTEM

1.1 Total Estimated Sewer System (Option 1)	\$ 75,375
1.2 Reduced Quantities	
1.2.1 sewer services 110m @ \$ 47	\$ 5,170
1.2.2 imported sand bedding 110m @ \$ 6	<u>660</u>
Total Reductions	<u>5,830</u>
Total Estimated Sewer System	\$ 69,545
	.../4

2.0 WATER SYSTEM

2.1 Total Estimated Water System (Option 1) \$ 24,990

2.2 Reduced Quantities

2.2.1 water services	100m @ \$ 45	\$ 4,500	
2.2.2 curb stop, corporation stops and saddles	8 @ \$ 250	2,000	
2.2.3 fire hydrant installation	1 @ \$1,500	1,500	
2.2.4 imported sand bedding	100m @ \$ 6	600	
Total Reductions			<u>8,600</u>

Total Water System \$ 16,390

SUMMARY

1.0 Total Sewer System	\$ 69,545
2.0 Total Water System	16,390
3.0 Total Roadwork	NIL
Total Estimated Cost	<u>\$ 85,935</u>
Add 20% Engineering and Contingency	<u>17,165</u>
Total Estimated Cost of Option 2	\$ 103,100

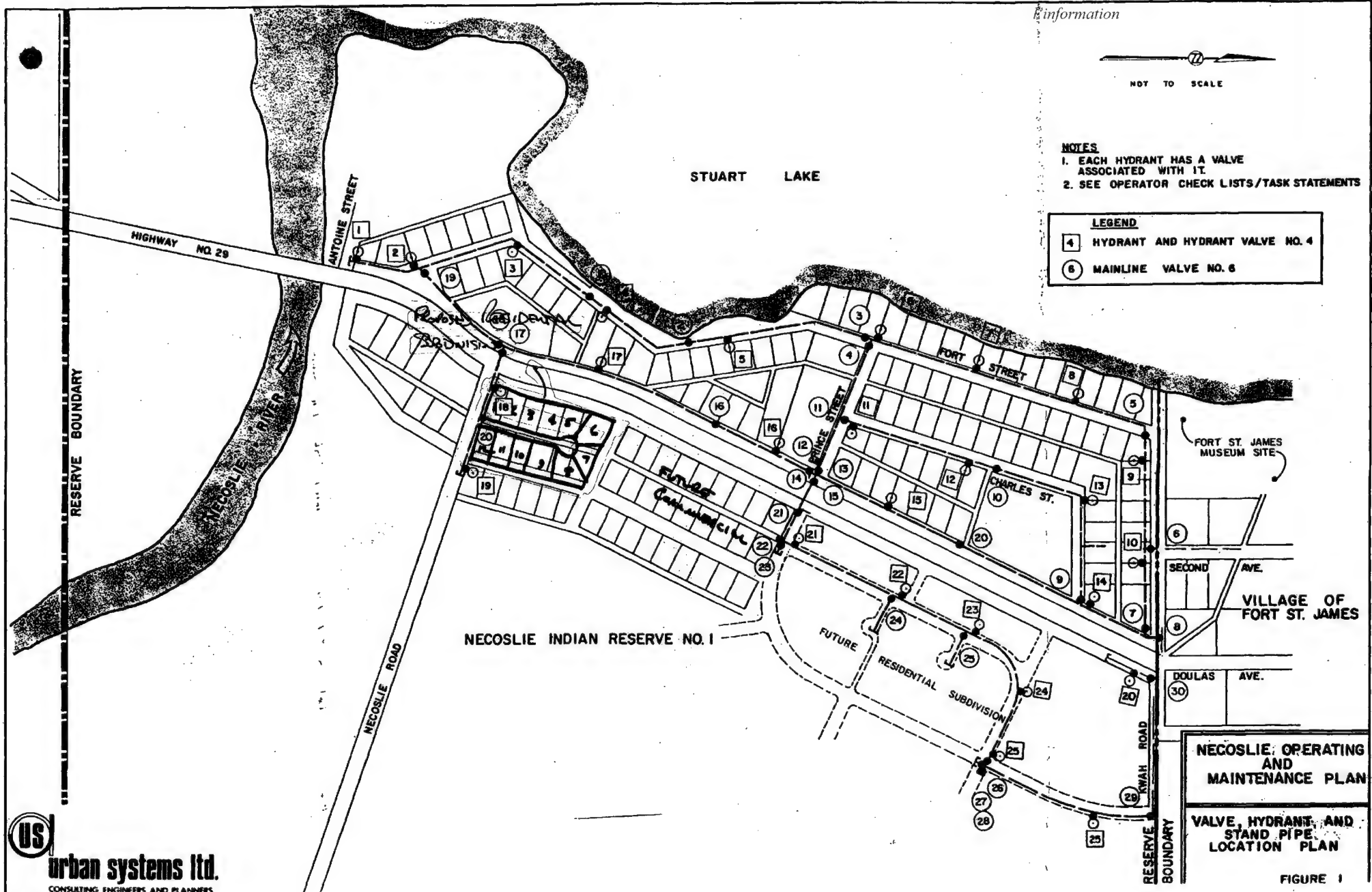
The attached sketch illustrates Option 2.

OPTION 3 - SERVICING OF DEVELOPED NEW SUBDIVISION LOTS ONLY

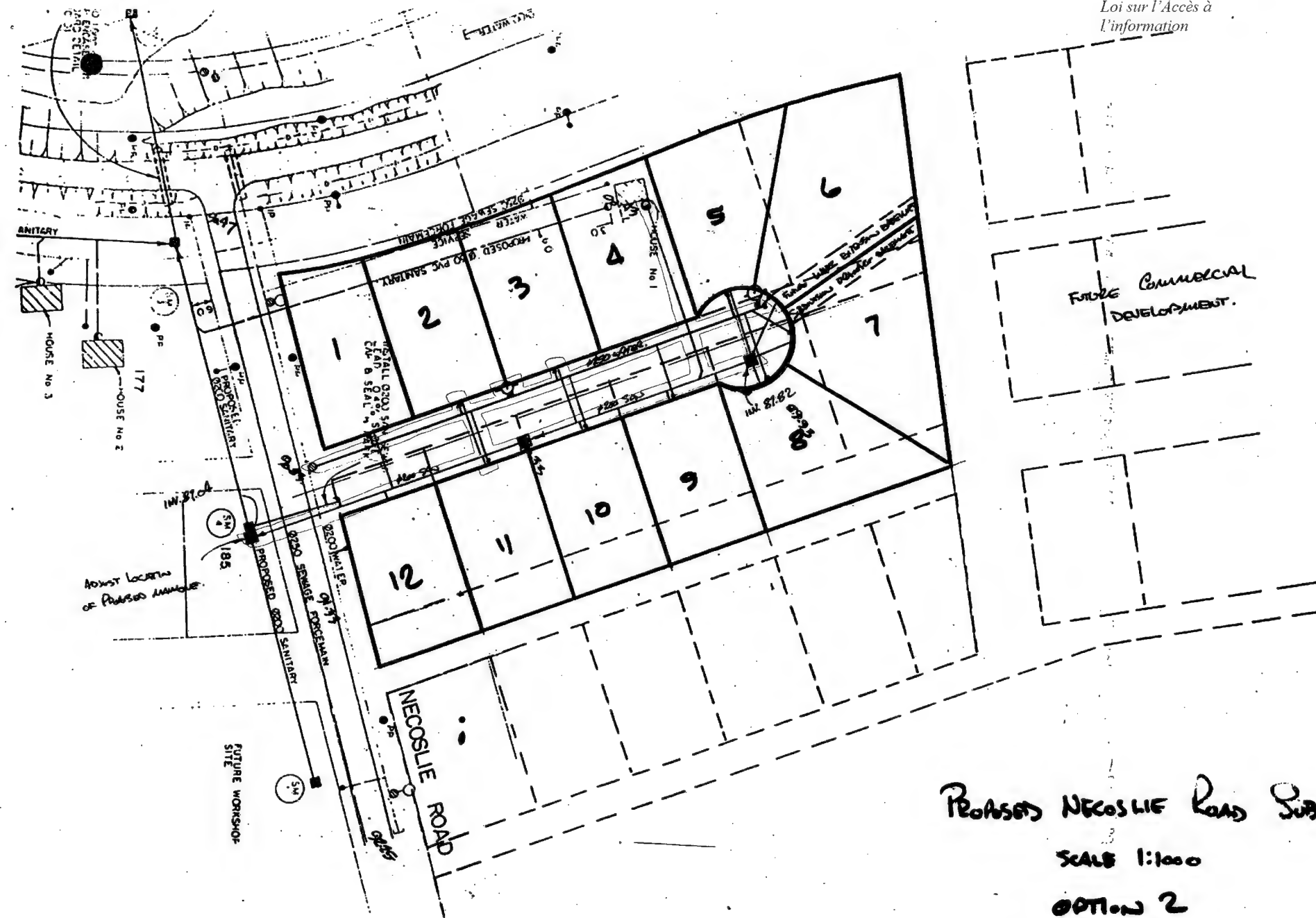
Should additional funding required to undertake Option 2 not be available the project scope may further be reduced by:

- installing the proposed sewermain extension from Fort Street to the manhole at the new subdivision/Necoslie Road intersection (Manhole No. 4)
- installing sewer service lines to houses south of Necoslie Road
- installing a sewermain in the proposed new subdivision right-of-way
- connecting the existing house north of Necoslie Road to the new sewermain
- constructing new houses only on Lots 1, 2 and 12
- water services to Lots 1 and 12 would be installed from the existing main on Necoslie Road. A water service to Lot 2 would be taken from the existing Ø19 line to House No. 1

.../5



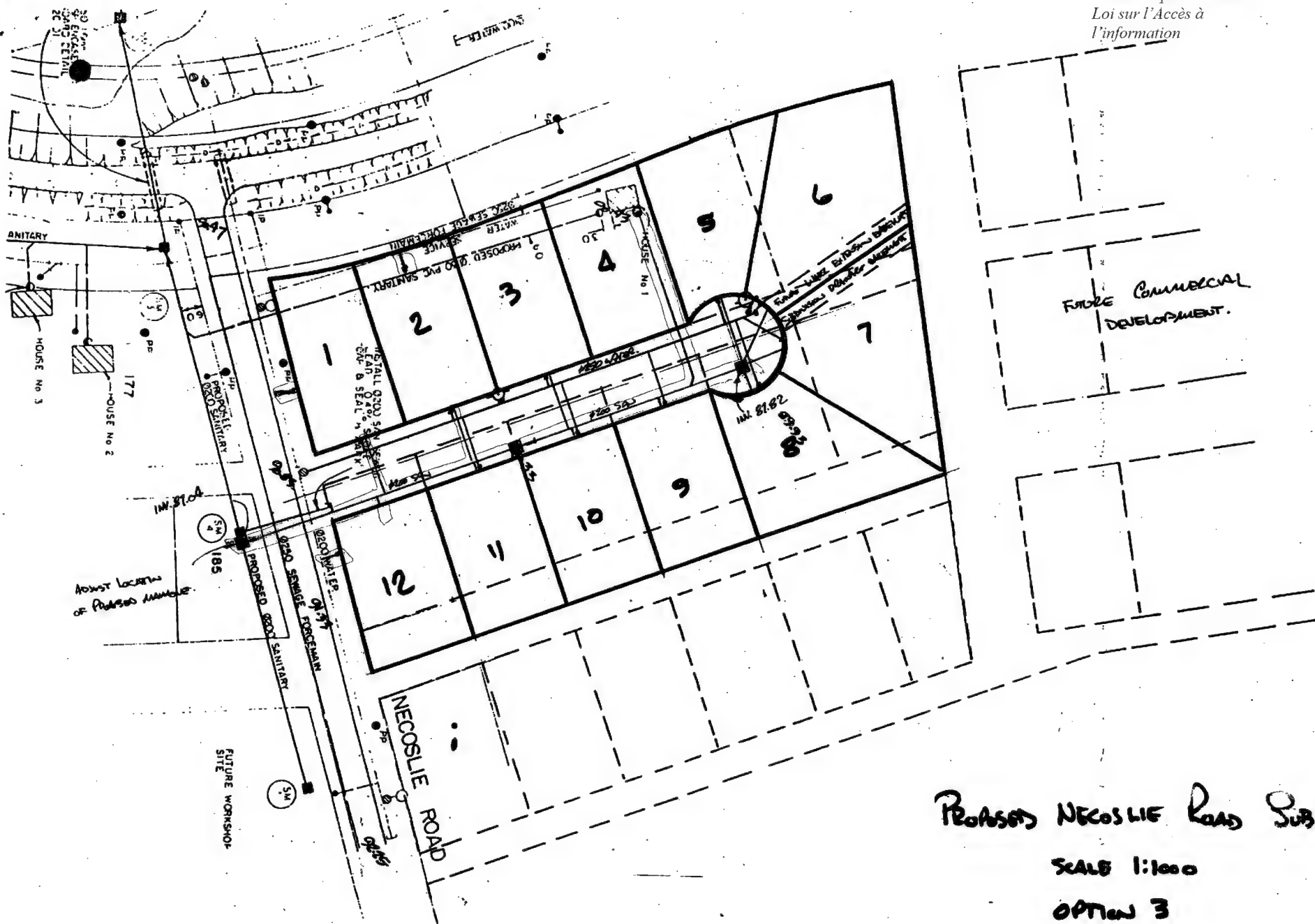




PROSSER NECOSLIE ROAD SUBDIVISION,

SCALE 1:1000

OPTION 2



MEMO TO FILE

RE: NECOSLIE I.R. #1 - SEWAGE DISPOSAL - NECOSLIE ROAD AREA

The following is my revision of Urban Systems' cost estimates for the works described in the December 3, 1984 letter from Gary Stikel to Necoslie Band.

Assumptions:

1. House north of Necoslie Road not to be serviced because it is to be moved, with moving costs included in the project.
2. No service to the commercial area or the future workshop site.
3. Otherwise system to be constructed as detailed by Urban Systems. Note that there are two options: conventional and small-diameter mains.

Revised cost estimate - conventional Ø 200 mains

1.	Ø200 sewer mains		
	0-2.5 m deep (SM1 - SM2)	120 M @ \$55.	\$ 6,600.
	25 - 4.0 M deep (SM3 - Lot 179)	100 M @ \$70.	7,000.
	4.0 - 5.0 M deep (SM2 - SM3)	65 M @ \$85.	5,525.
2.	Ø1050 Manholes	7 M @ \$650.	\$ 4,550.
3.	Highway crossing	18 M @ \$300.	\$ 5,400.
4.	Services		
	Ø100 line	50 M @ \$ 47	\$ 2,350.
5.	Imported sand bedding	335 M @ \$ 5	\$ 1,675.
6.	Locate manhole on Fort Street		L.S. \$ 500.
7.	Repair Highway 27		L.S. \$ 2,000.
8.	Restoration and Clean-up		L.S. \$ 2,000.
9.	Move one house, including construction of foundation, service connections, lot clearing and driveway construction		L.S. \$ 11,000
TOTAL			\$48,600.
Add 20% engineering and contingency			\$ 9,720.
GRAND TOTAL			<u>\$58,320.</u>

Revised cost estimate - small diameter mains

1.	Ø150 sewermains		
	0 - 2.5 M deep (SM1 - SM2)	120 M @ \$50	\$ 6,000.
	2.5 - 4.0 M deep (SM3 - Lot 179)	100 M @ \$65	6,500.
	4.0 - 5.0 M deep (SM2 - SM3)	65 M @ \$80	5,200.
2.	Ø150 Mainline cleanouts	3 @ \$300	\$ 900.
3.	Highway crossing	18 M @ \$300	\$ 5,400.
4.	Services		
	Ø100 line	50 M @ \$47	\$ 2,350.
	600 lgal. septic tank	3 @ \$800	\$ 2,400.
5.	Imported sand bedding	335 M @ \$5	\$ 1,675.
6.	Locate manhole on Fort Street		L.S. \$ 500.
7.	Repair Highway 27		L.S. \$ 2,000.
8.	Restoration and clean-up		L.S. \$ 2,000.
9.	Move one house, including construction of foundation, service connections, lot clearing and driveway construction		L.S. \$11,000.
TOTAL			<u>\$45,925.</u>
Add 20% engineering and contingencies			<u>\$ 9,185.</u>
GRAND TOTAL			<u><u>\$55,100.</u></u>

Note that either option would service three existing houses plus one vacant lot (Lot 178), assuming this lot is otherwise suitable and is owned by the band.

MANFRED MALZAHN
DISTRICT PLANNER
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

MM/mw

January 29, 1985

E4380-614

Necoslie Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Chief James T. Prince

Dear Sir:

Re: Necoslie IR #1 - Sewage Disposal - Necoslie Road Area

On January 23, 1985, the District Capital Management Committee reviewed the Band's proposal to provide sewage disposal service to 4 houses east of Highway 27 in the Necoslie Road area at a cost of \$76,100.

Urban Systems has designed the proposed works and prepared a cost estimate (see Dec. 3/84 letter, Gary Stickel to Band). The project would service 4 houses and the future workshop site, and a sewer lead would be installed to the future commercial area. The cost estimate is \$76,100.

I wish to re-confirm the Department's policy that infrastructure capital cannot be used to service commercial developments. Also, the cost of the project is excessive (approx. \$19,000 per house for sewage disposal only). Therefore the District can not fund this project as presented by the Band.

However, I agree that all or some of the 4 houses should be serviced if this can be done at a reasonable cost. Some questions that would need to be resolved are:

1. Are all four houses occupied, and if not, when will they be occupied?
2. Is the house north of Necoslie Road still scheduled to be moved, as we were told two years ago? The present location of the house, as well as the proposed service connection to that house, conflict with your proposed commercial development. If the house is to be moved, would it be moved to the area south of Necoslie Road?

.../2

- 2 -

3. What would the cost of the sewer service be, once the above questions are resolved?

At this time the District Capital Plan for 1985 has not been decided, because consultation with the Capital Portfolio of the Tribal Council is continuing. If the project is funded I am confident that the Department and the Band can reach a mutually acceptable decision on this matter.

Yours truly,

JIM FLEURY
DISTRICT MANAGER
PRINCE GEORGE DISTRICT

cc: Supt. of Band Operations, Jeff Goldie
Manfred Malzahn, District Planner
Alex Miller, District Engineer
T.K. Thieu, Engineering & Architecture, B.C. Region

MM/kv

USL urban systems ltd.

consulting planners and engineers

July 16, 1984

Our File: C659-4

Indian and Northern Affairs
P.O. Box 1000
800 Burrard Street
Vancouver, B.C.
V6Z 2J3

Attention: Mr. T.K. Thien

Dear Sir:

Re: Necoslie 42 Lot Subdivision
Roads and Sewer To Service 24 Lots

Further to our telephone conversation of July 11, 1984 we have prepared a cost estimate to construct roads and sewers to the lots serviced under the 1984 water system completion project.

A site plan showing the work included under this project is attached for your reference. The cost of the proposed work is estimated as follows:

1.0 ROADS

1.1 Excavation and embankment	4,000 m ³	@ \$ 4	\$ 16,000
1.2 Subgrade preparation	9,000 m ²	@ \$ 1	\$ 9,000
1.3 300mm pit run gravel subbase	9,000 m ²	@ \$ 5	\$ 35,000
1.4 50mm crushed gravel base	7,000 m ²	@ \$ 1.20	\$ 8,400
1.5 Restoration and cleanup		L.S.	\$ 3,000
TOTAL 1.0 ROADS			\$ 71,400

2.0 SANITARY SEWER COLLECTION SYSTEM

2.1 Ø200 sanitary sewer mains	810 m	@ \$ 65	\$ 52,650
2.2 Ø1050 manholes	14.5 m	@ \$ 370	\$ 5,365
2.3 Manhole bases, lids, frames and covers	7	@ \$1,250	\$ 8,750
2.4 Connection to existing manhole at Highway (Prince Street)		L.S.	\$ 1,000
2.5 Ø200 caps	2 m	@ \$ 100	\$ 200
2.6 Ø100 services (30 lots)	305 m	@ \$ 60	\$ 18,300
2.7 Imported sand bedding	1,150 m	@ \$ 6	\$ 6,900
TOTAL 2.0 SANITARY SEWER			\$ 93,165

.../2

- 2 -

3.0 STORM DRAINAGE

3.1 Culvert at Highway and Road No. 1 inter- section	15 m @ \$ 250	\$ 3,750
3.2 Ø450 Culvert at road crossing (4 Req'd)	60 m @ \$ 150	\$ 9,000
3.3 Ditching along roads	2,500 m @ \$ 2	\$ 5,000
3.4 Allowance for offsite surface water runoff control and ditching		<u>\$ 17,250</u>
TOTAL 3.0 STORM DRAINAGE		\$ 35,000

SUMMARY

TOTAL PART 1.0 ROADS	\$ 71,400
TOTAL PART 2.0 SEWER	\$ 93,165
TOTAL PART 3.0 STORM DRAINAGE	<u>\$ 35,000</u>
TOTAL	\$199,565
Add 25% Engineering and Contingencies	<u>\$ 49,435</u>
Total Estimated Construction Cost	\$249,000

The above estimates do not include: provisions for legal survey electrification, servicing of vacant lots along Road No. 1 or the disposal of stripped material dozed to the edge of road right-of-way to accommodate installation of watermains and services.

Site drainage is a critical component of the project. Surface runoff from lands east of the subdivision had flooded the site making installation of the waterline along the most easternly road difficult. A diversion ditch graded along the back lot line of the easternly lots may have to be graded to prevent future flooding of the subdivision. Disposal of surface water may be accommodated by regrading the existing highway ditch and/or grading a proposed diversion ditch south towards Necoslie Road and the river, possibly through the proposed work shop site; however, a site investigation should be undertaken to confirm this.

.../3

We have increased the thickness of pit run gravel subbase to 300mm from the 200mm proposed in our design to compensate for existing soil conditions, especially where the ground is saturated; however depending on actual site conditions additional measures may have to be implemented such as increasing the thickness of pit run gravel further, or perhaps utilizing filter cloth between the subgrade and subbase to construct good roads throughout the subdivision. However the proposed diversion ditch should contribute to more stabilized soil conditions and therefore negate any additional measures to increase the structural competency of subdivision roads.

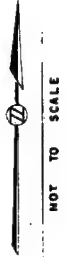
We trust this information will assist you in determining the viability of this project. Should you have any questions please do not hesitate to call.

Yours truly,

URBAN SYSTEMS LTD.



GS/jc



- NOTES**
1. EACH HYDRANT HAS A VALVE ASSOCIATED WITH IT.
 2. SEE OPERATOR CHECK LISTS/TASK STATEMENTS

LEGEND	
4	HYDRANT AND HYDRANT VALVE NO. 4
6	MAINLINE VALVE NO. 6

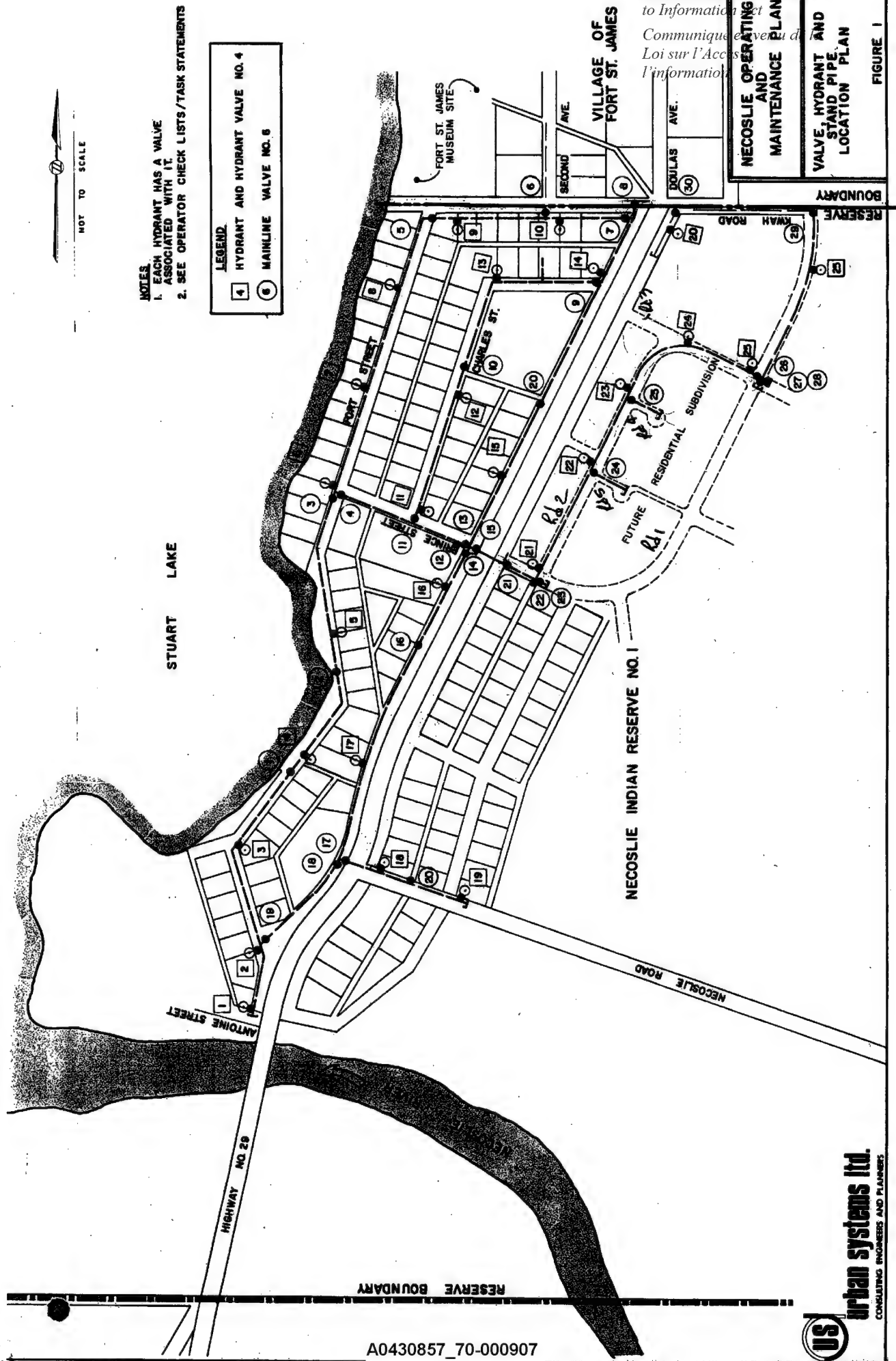


FIGURE 1

BAND COUNCIL RESOLUTION ROUTE FORM

Released under the Access

Necoslie

BAND Information Act

E4215-4-614

E4203-614

obtenue en vertu de la

Loi sur l'Accès à

l'information

Attention

Resolution No. 985/614-27 (84/85) File Number(s)

Date received by District Office October 26, 1984

Initial
& DateDISTRICT MANAGER:SUPERINTENDENT OF BAND OPERATIONS:

Jean : please retain on file -
refer to my response to Band

JCB
11/1/84

RESERVES & TRUSTS:ECONOMIC DEVELOPMENT:EDUCATION:SOCIAL DEVELOPMENT:BAND OPERATIONS:

Action

Ted

29.10.84

ADMINISTRATION & FINANCE:

A0430857_71-000908

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds.
NOTA: Les mots "des fonds de notre bande" "Capital" ou "Revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes.

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE INDIAN BAND	Current Capital Balance Solde de capital	\$
AGENCY			
DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$
PROVINCE		Current Revenue balance Solde de revenu	\$
PLACE	BRITISH COLUMBIA		
NOM DE L'ENDROIT	FORT SAINT JAMES	Committed - Engagé	\$
DATE	24 DAY - JOUR 10 MONTH - MOIS AD 19 84 YEAR - ANNÉE		

DO HEREBY RESOLVE:
DÉCIDE, PAR LES PRÉSENTES:

THAT THE NECOSLIE BAND REQUESTS THE SURPLUS MONIES IN THE AMOUNT OF EIGHTEEN THOUSAND EIGHT HUNDRED THIRTY FOUR (\$18,834.00) dollars FROM THE WATERWORKS UPGRADING FUNDS.

THE MONEY SHALL BE USED FOR THE PURPOSE OF WATER HOOK-UPS AND SEWER DESIGN FOR THE THREE HOUSES ON THE EAST SIDE OF HIGHWAY 27 AND THE NECOSLIE ROAD INTERSECTION.

WE AGREE TO MANAGE THESE FUNDS IN ACCORDANCE WITH OUR LOCAL SERVICE AGREEMENT DATED June 30, 1980.

THESE FUNDS ARE REQUIRED FOR THE FISCAL YEAR ENDING March 31, 1985.

THIS AGREEMENT SHALL TAKE EFFECT ON THE DATE SIGNED AND TERMINATE ON JULY 1, 1985.

AND THAT GENERALLY ACCEPTED ACCOUNTING PRINCIPLES WILL BE FOLLOWED WITH RESPECT TO THE EXPENDITURE OF THESE FUNDS.

AND THAT DEPARTMENTAL STAFF WILL BE PERMITTED ACCESS AT REASONABLE TIMES TO ALL RELEVANT BOOKS AND RECORDS.

A quorum for this Bande
Pour cette bande le quorum est

consists of
fixé à FIVE (05)
Council Members
Membres du Conseil

[Signatures of Council Members]
(Chief - Chef)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens
	A. Capital \$	B. Revenue - Revenu \$		5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenu
6. Recommended - Recommandable			Approved - Approuvable	
Head of Band Operations Date Recommending Officer - Recor			District Manager Date Approving Officer - Approuvé par	

A0430857_72-000909

ROUTING SLIP

CONTRIBUTION AGREEMENTS

Released under the Access
to Information Act

Contribution Agreement/BCR # 985/614-22 (84/85)

Communiqué en vertu de la

Loi sur l'Accès à
l'informationDistrict Office Prince George

Contribution Agreement/BCR # 985/614-22 (84/85)

Program Band Operations

Originator's Signature _____

Recipient NecoslieDate of Contribution Agree. September 18, 1984Value of this Contr. Agree. \$ 13,200.00Date Contribution Agree./BCR
received in District Office September 28, 1984Prior Agreements for this purpose \$ NilTotal - This Purpose \$ 13,200.00All other Agreements - Year to Date for this Band \$ 1,866,581.00 1866581Total Value of Contribution Agreements/BCR to date \$ 1,879,781.00 1879781

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	* DATE OUT	INITIAL
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations *		For your recommendation	28.09.84		
Head, Finance & Admin					
District Manager					

* If the time between date in and date out exceeds two working days, provide reason below:

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	* DATE OUT	INITIAL
Director, Band Ops					
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
Finance					
Director of Operations					
Regional Director Gen.					

* If the time between date in and date out exceeds two working days, provide reason below:

B.C. REGION INDIAN AND INUIT AFFAIRS

CONTRIBUTION AGREEMENT/B.C.R. CHECKLIST

FINANCE

- ☐ Recipient clearly identified
- ☐ Expenditure plan broken down by planning variable
- ☐ Signing date specified
- ☐ Purpose of agreement clearly stated
- ☐ Effective date and termination date specified
- ☐ Cash flow
- ☐ Maximum of three months advance at one time
- ☐ Quarterly or more frequent financial reports specified
- ☐ Conditions for final payment (i.e. proof of goods delivered)
- ☐ Annual audit provision
- ☐ Terms and conditions attached as requested
- ☐ Financial and operational certification at appropriate level

Signature _____

Date _____

PROGRAM

- ☐ Will the contribution agreement achieve the desired impact?
- ☐ Is this the best use of all allocated funds? (Value for \$'s spent)
- ☐ Is there a more effective way to achieve the Band's, Association's or individual's goal?
- ☐ Is recipient capable of fulfilling the terms and conditions?
- ☐ Is the total amount of the Contribution within the manager's signing authority?

IF A CAPITAL PROJECT

- ☐ Is a fully authorized Project Initiation Document attached?
- ☐ Are technical terms and conditions attached?
- ☐ Is a project officer assigned?

Signature _____
A0430857_74-000911

Date _____



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et Inuit

Chronological No. / Numéro chronologique

to Information Act
985/614-22 (84/85)

Communiqué en vertu de la

File Reference - No. du ref. du dossier

E4215-4-614; E4332-614

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

NOTE: The words "From our Band Funds" "Capital" or "Revenue", whichever is the case, must appear in all resolutions requesting expenditures from Band Funds.
NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes.

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE INDIAN BAND	Current Capital Balance Solde de capital	\$
AGENCY DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$
PLACE NOM DE L'ENDROIT	FORT SAINT JAMES	Committed - Engagé	\$
DATE	18 09 AD 19 84 DAY - JOUR MONTH - MOIS YEAR - ANNÉE		

DO HEREBY RESOLVE:
DÉCIDE, PAR LES PRÉSENTES:

- THAT we request from the Department of Indian Affairs, the sum of Thirteen Thousand Two Hundred (\$13,200.00) Dollars for Water and Sewer Hook-ups for the 1984-85 Housing of the Necoslie Band.
- AND THAT The names of the housing recipients and the lengths of the water and sewer lines will follow on Appendix 'A', Description of Works.
- AND THAT this project will be administered in accordance with the attached Technical Terms and Conditions.
- AND THAT generally accepted accounting principals will be followed with respect to the expenditure of these funds.
- AND THAT Departmental Staff will be permitted access at reasonable times to all relevant books and records.
- AND THAT an audit of these funds will be provided by June 30th, 1985.
- AND THAT these funds are required for the fiscal year ending March 1985.
- AND THAT we agree to manage these funds in accordance to our Local Service Agreement dated, June 30th, 1980.

64894
SEP 28 AM 24

A quorum for this Bande
Pour cette bande le quorum est.

consists of FIVE (05)
fixé à

Council Members
Membres du Conseil

[Signatures of Council Members]
(Chief - Chef)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE					
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens	5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A. Capital \$	B. Revenue - Revenu \$			
6. Recommended - Recommandable			Approved - Approuvable		
Head of Band Operations Date			District Manager Date		
Recommending Officer - Rec			Approving Officer - Approuvé par		

A0430857_75-000912

APPENDIX 'A'

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

DESCRIPTION OF WORKS

The following information is the housing recipients name and the sizes of their water and sewer line for hook-ups. I have not included the cost for labour of a back-hoe.

STEVEN PRINCE:

Sewer line = 50 feet 4 inch pipe
Water line = 26.5 feet 1½ inch pipe

PATRICIA ISAAC:

Sewer line = 53.8 feet 4 inch pipe
Water line = 30.6 feet 1½ inch pipe

LARRY JOSEPH:

Sewer line = 46½ feet 4 inch pipe
Water line = 53.3 feet 1½ inch pipe

LESLIE J. PRINCE:

Sewer line = 64.2 feet 4 inch pipe
Water line = 49.9 feet 1½ inch pipe

BRADY ANTOINE:

Sewer line = 53.3 feet 4 inch pipe
Water line = 46.6 feet 1½ inch pipe

GEORGE JOSEPH:

Septic Tank/Field
Water line 88.9 feet 1½ inch pipe

Attached are the individual Plot Plans for the 84-85 housing and outlined is the water and sewer lines for hook-ups.

LOT PLAN

INDICATE
Released under the Access
to Information Act
BY ARROW
Communiqué en vertu de la
Loi sur l'accès à
l'information

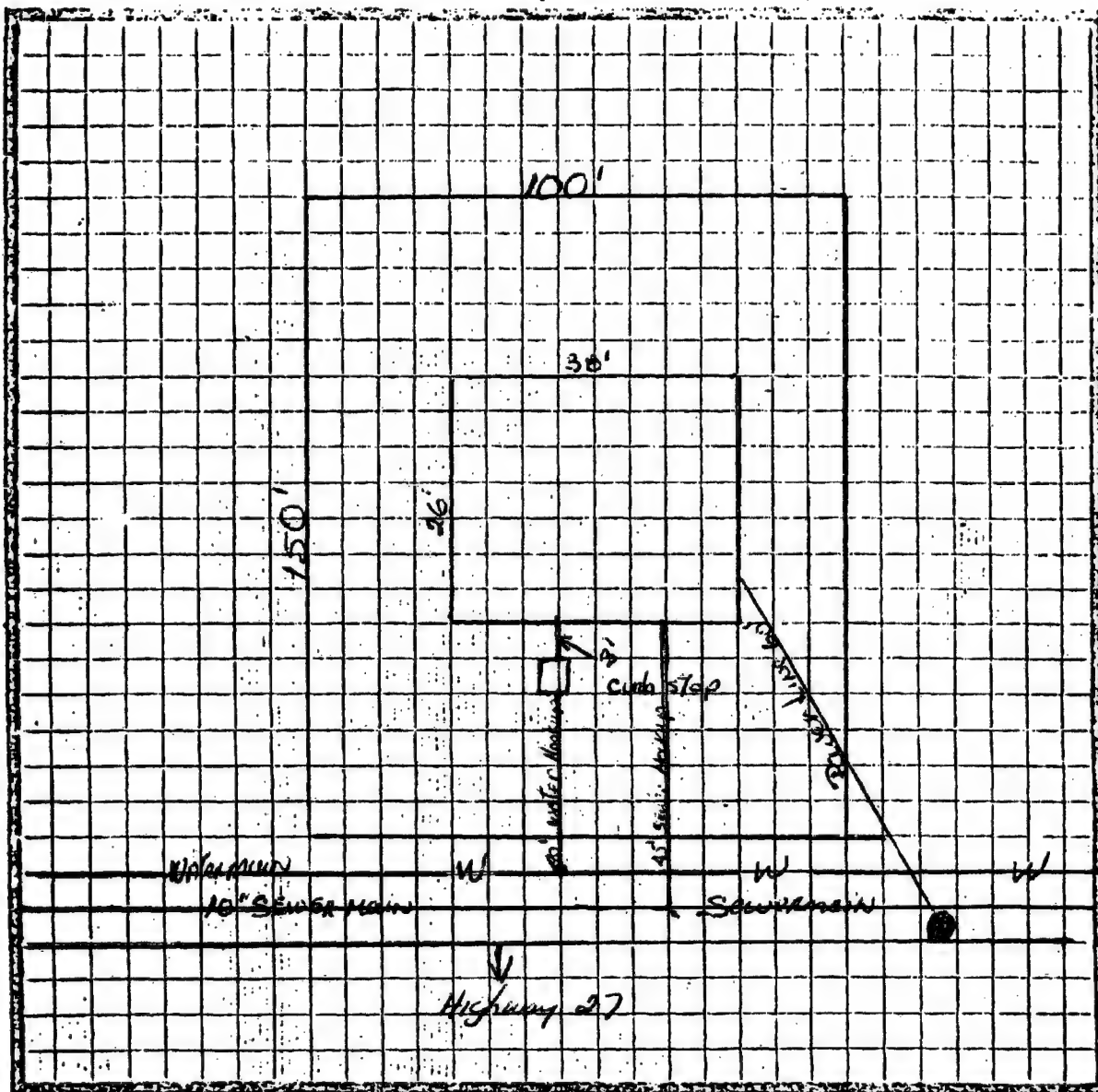
Schedule "B"

NAME

BRADY ANTONIE Band # 469

LOT No.

126



NOTE: Plot Plan must show the undermentioned items (if applicable)

1. Dimensions of lot.
2. Dimensions of setback and sideyards.
3. Location and dimensions of house and future developments (garage etc. drawn roughly to scale).
4. Location and dimensions of existing buildings drawn roughly to scale.
5. Location of driveway and walks.
6. Location of sewer line.
7. Location of water line.
8. Location of power line.
9. Location of septic tank and disposal field.
10. Location of well.
11. Location and description of adjacent roads, etc.
12. Location of easements or rights of way.
13. General contours of site as it will be when finished.
14. Finished grades at all corners of house in relation to crown of road(s).

LOT PLAN

Released under the
 to Information Act
 Communiqué en
 l'information

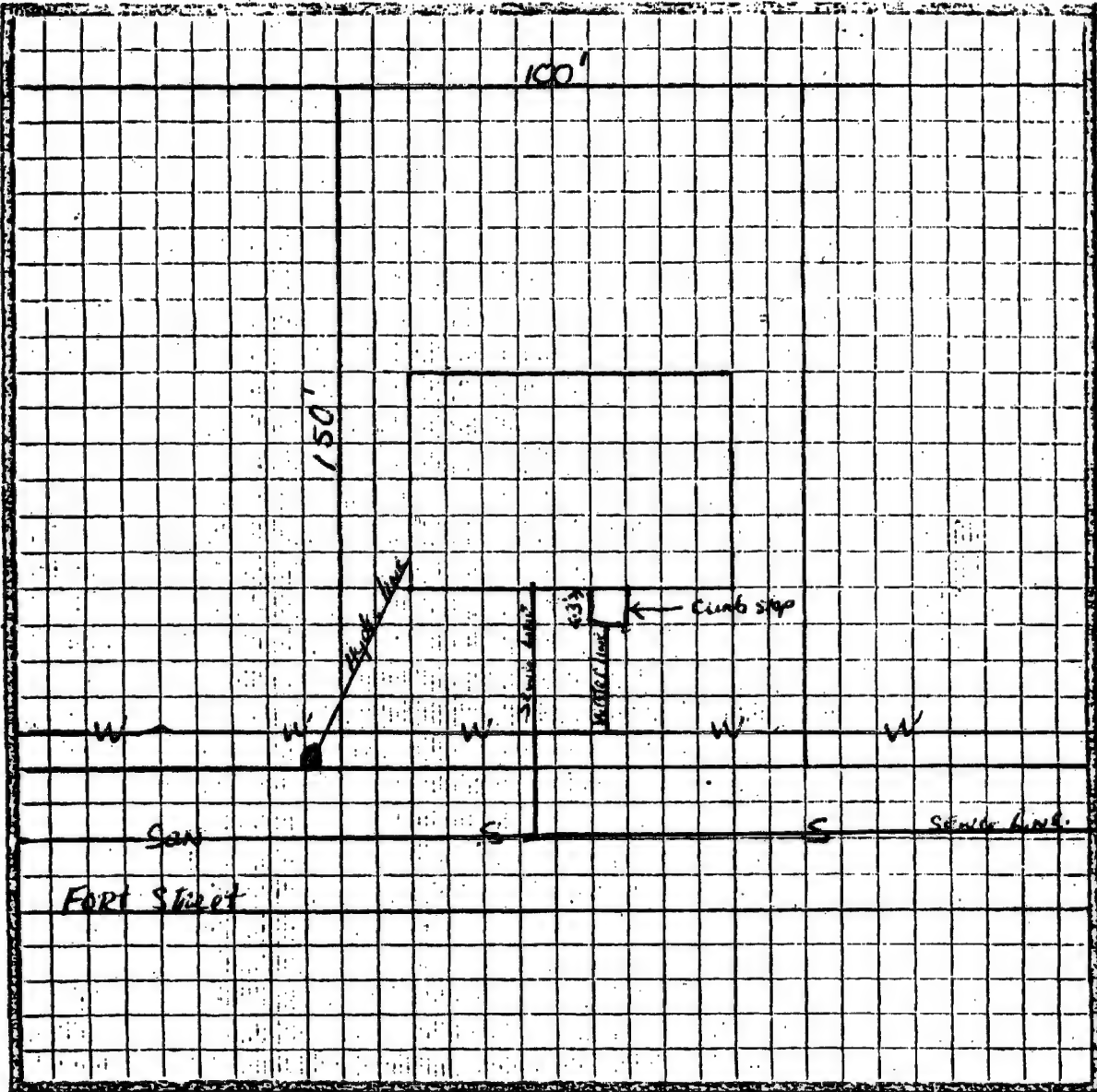
Schedule B

NAME

PATRICIA ISSAC

LOT No.

76



NOTE: Plot Plan must show the undermentioned items (if applicable)

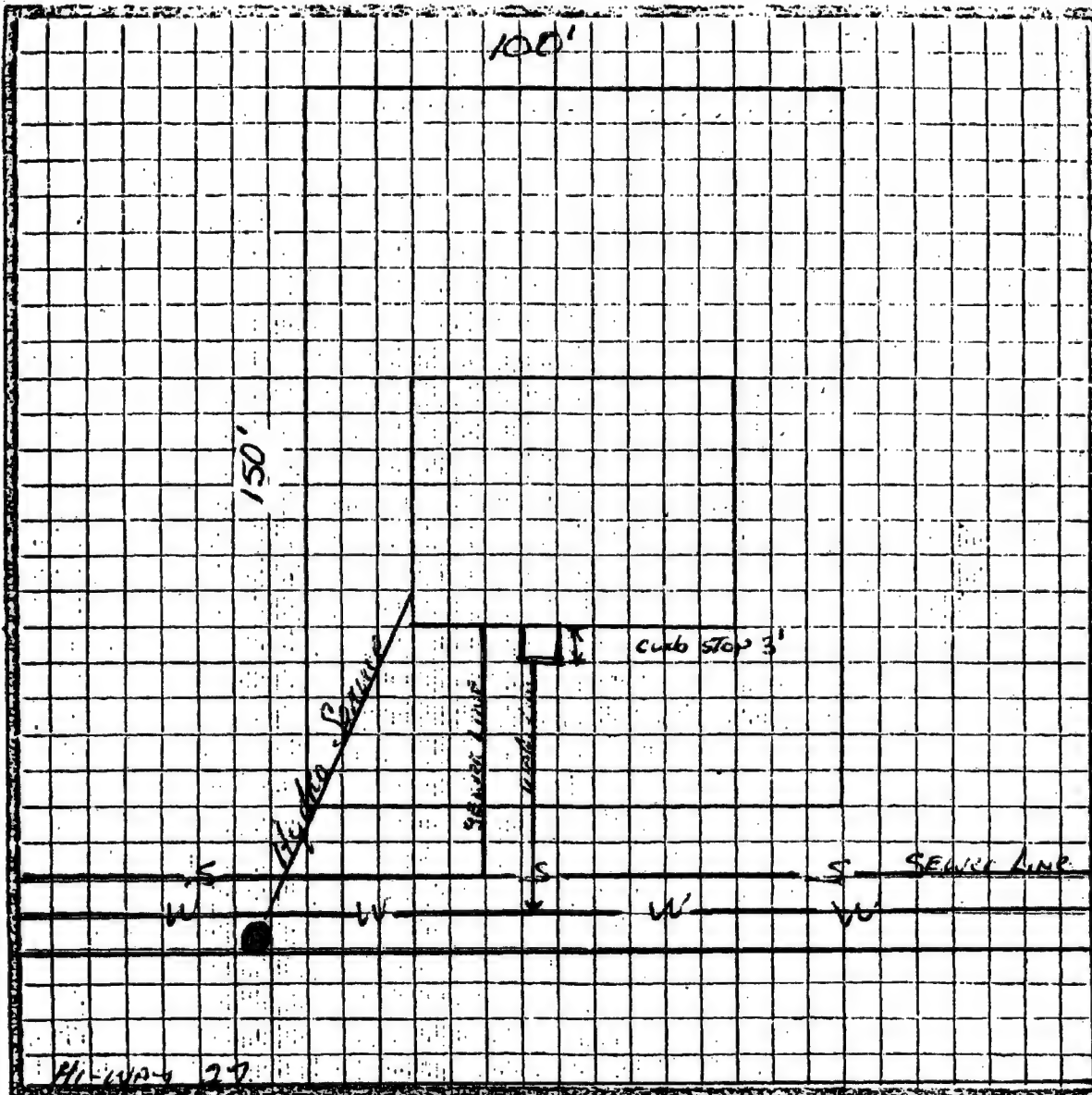
1. Dimensions of lot.
2. Dimensions of setback and sideyards.
3. Location and dimensions of house and future developments (garage etc. drawn roughly to scale).
4. Location and dimensions of existing buildings drawn roughly to scale.
5. Location of driveway and walks.
6. Location of sewer line.
7. Location of water line.
8. Location of power line.
9. Location of septic tank and disposal field.
10. Location of well.
11. Location and description of adjacent roads, etc.
12. Location of easements or rights of way.
13. General contours of site as it will be when finished.
14. Finished grades at all corners of house in relation to crown of road(s).

Schedule "B"

1 Block # 49

NAME LARRY JOSEPH & Margaret Sam

LOT No. 116



NOTE: Plot Plan must show the undermentioned items (if applicable)

1. Dimensions of lot.
2. Dimensions of setback and sideyards.
3. Location and dimensions of house and future developments (garage etc. drawn roughly to scale).
4. Location and dimensions of existing buildings drawn roughly to scale.
5. Location of driveway and walks.
6. Location of sewer line.
7. Location of water line.
8. Location of power line.
9. Location of septic tank and disposal field.
10. Location of well.
11. Location and description of adjacent roads, etc.
12. Location of easements or rights of way.
13. General contours of site as it will be when finished.
14. Finished grades at all corners of house in relation to crown of road(s).

LOT PLAN

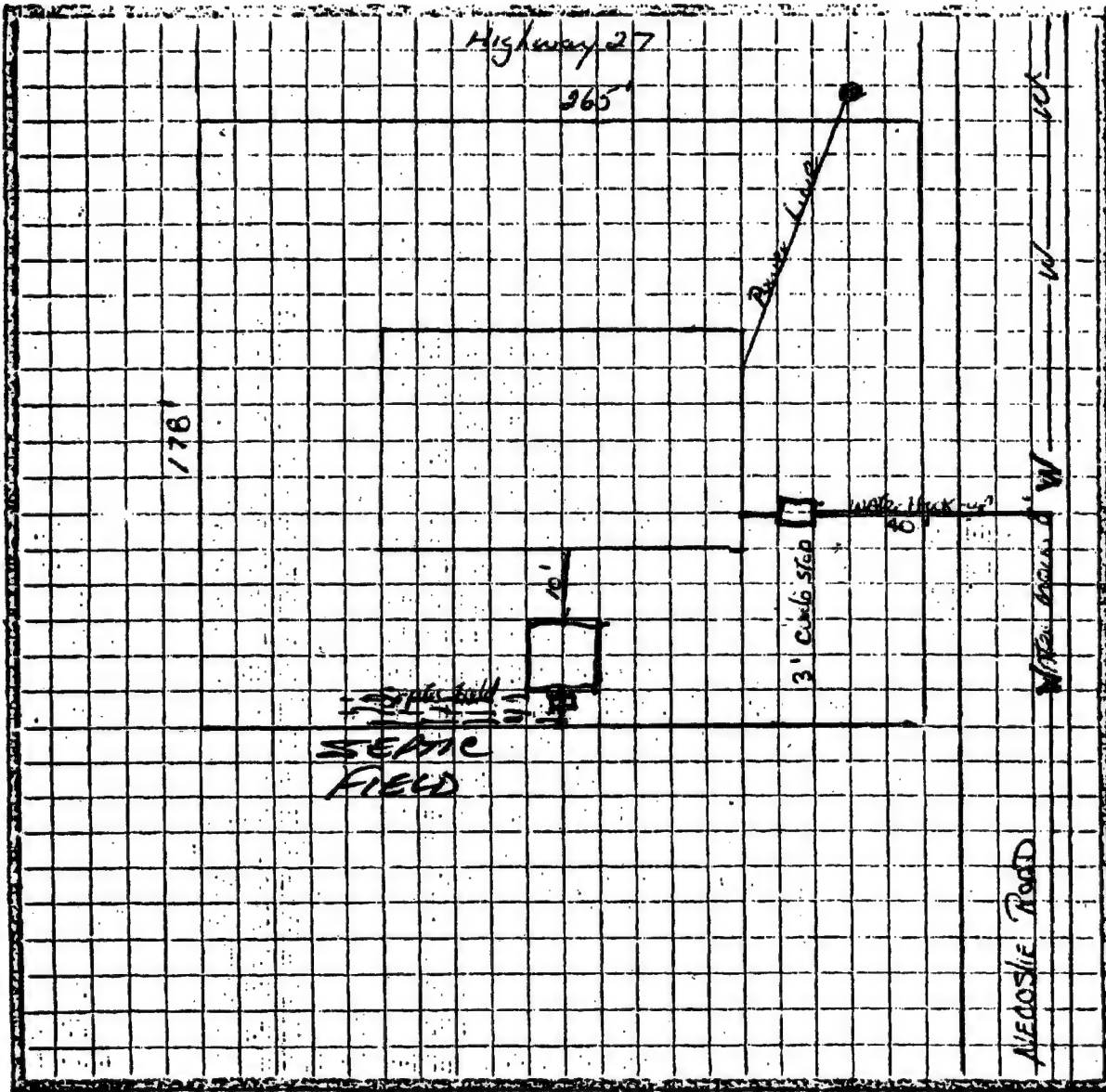
Released under the Access to Information Act
 Communiqué en vertu de la Loi sur l'accès à l'information

INDICATE NORTH BY ARROW

Schedule "B"

NAME **GEORGE JOSEPH**

LOT No. # **177**

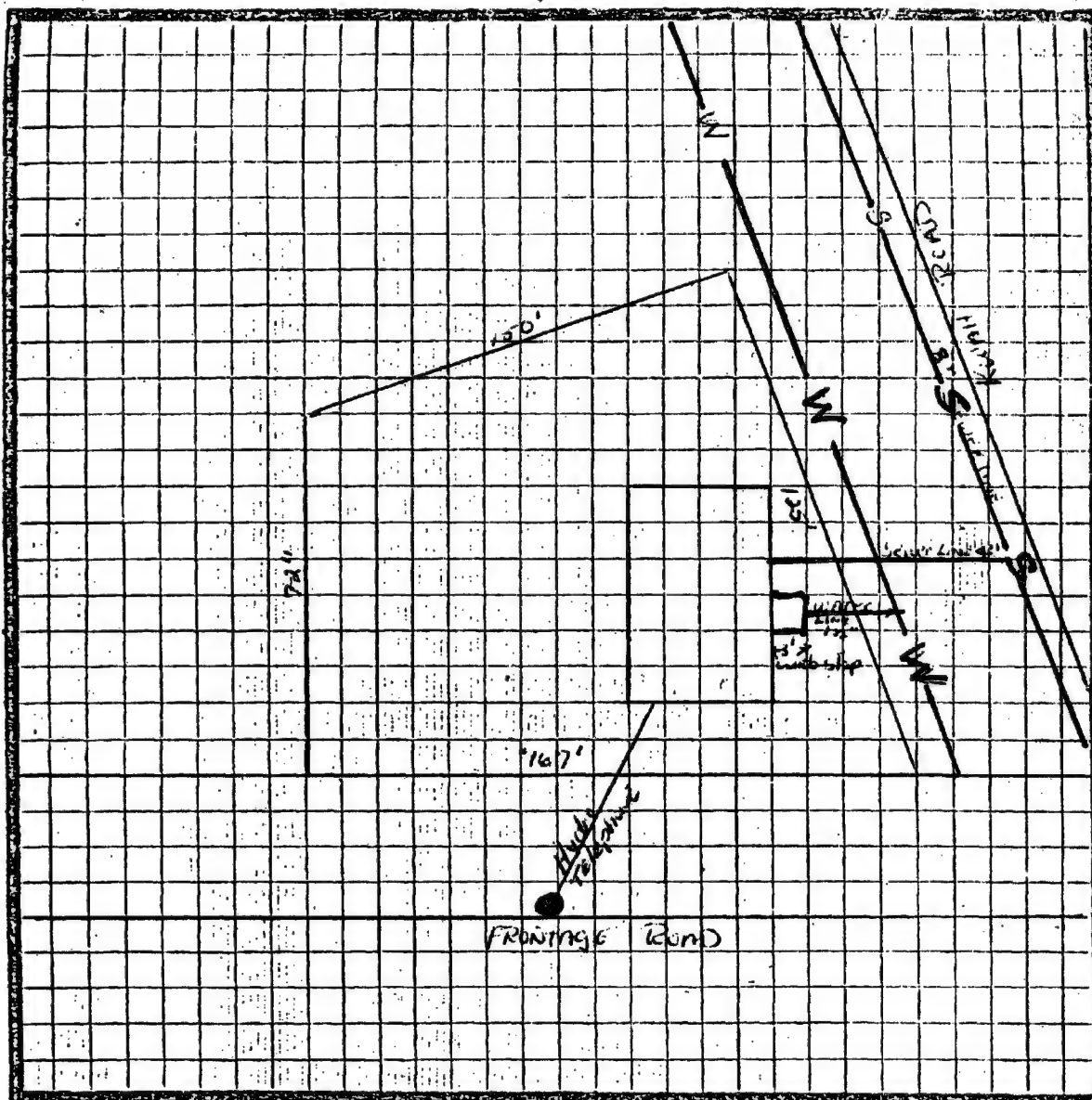


NOTE: Plot Plan must show the undermentioned items (if applicable)

1. Dimensions of lot.
2. Dimensions of setback and sideyards.
3. Location and dimensions of house and future developments (garage etc. drawn roughly to scale).
4. Location and dimensions of existing buildings drawn roughly to scale.
5. Location of driveway and walks.
6. Location of sewer line.
7. Location of water line.
8. Location of power line.
9. Location of septic tank and disposal field.
10. Location of well.
11. Location and description of adjacent roads, etc.
12. Location of easements or rights of way.
13. General contours of site as it will be when finished.
14. Finished grades at all corners of house in relation to crown of road(s).

Schedule B
NAME **STEVEN & EMMA PRINCE**

LOT No. **#19 TR#1**
Information



NOTE: Plot Plan must show the undermentioned items (if applicable)

Steven Prince - 807

1. Dimensions of lot.
2. Dimensions of setback and sideyards.
3. Location and dimensions of house and future developments (garage etc. drawn roughly to scale).
4. Location and dimensions of existing buildings drawn roughly to scale.
5. Location of driveway and walks.
6. Location of sewer line.
7. Location of water line.
8. Location of power line.
9. Location of septic tank and disposal field.
10. Location of well.
11. Location and description of adjacent roads, etc.
12. Location of easements or rights of way.
13. General contours of site as it will be when finished.
14. Finished grades at all corners of house in relation to crown of road(s).

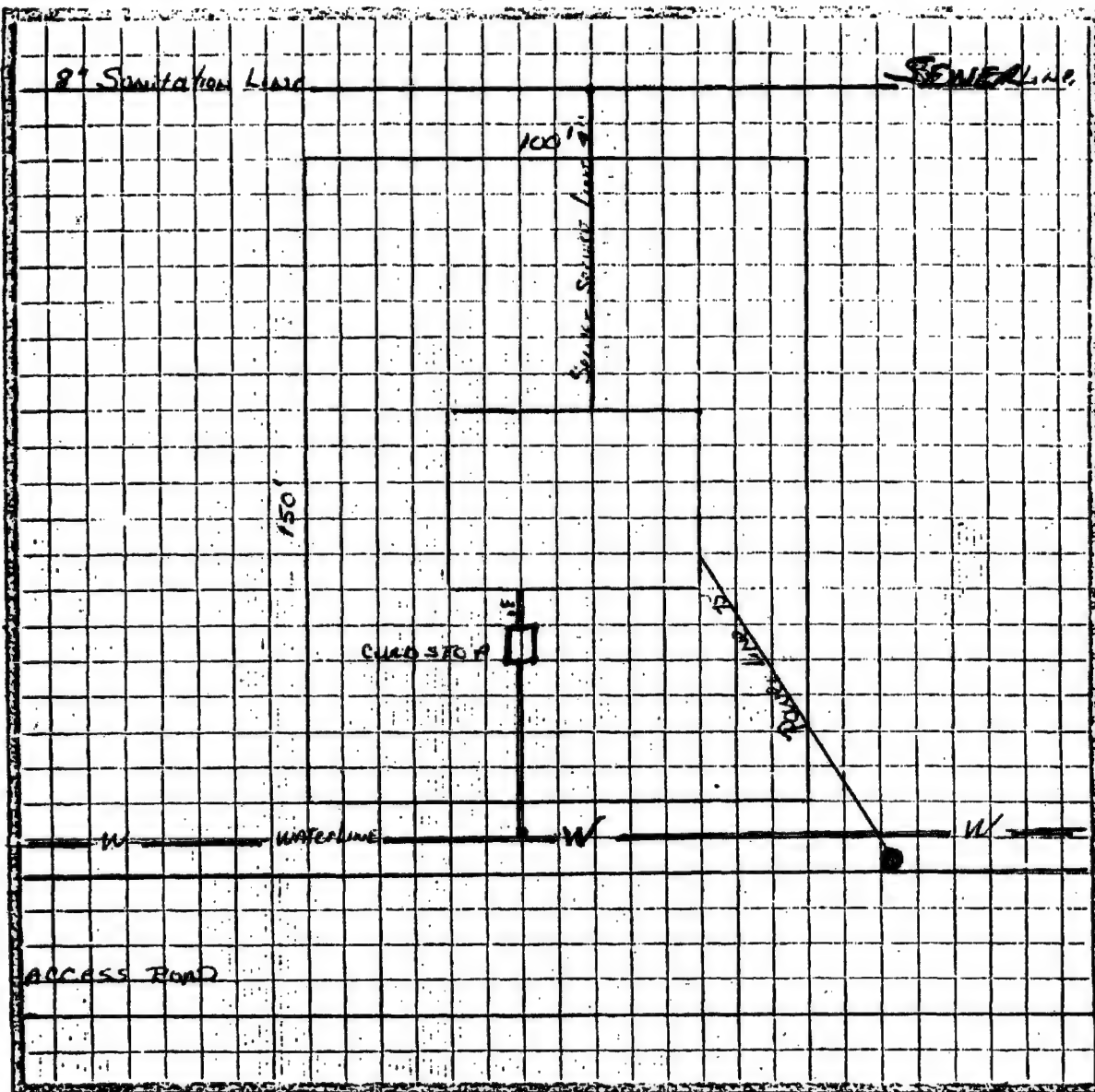
LOT PLAN

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Schedule "B"

NAME LESLIE PRINCE

LOT No. # 98



NOTE: Plot Plan must show the undermentioned items (if applicable)

1. Dimensions of lot.
2. Dimensions of setback and sideyards.
3. Location and dimensions of house and future developments (garage etc. drawn roughly to scale).
4. Location and dimensions of existing buildings drawn roughly to scale.
5. Location of driveway and walks.
6. Location of sewer line.
7. Location of water line.
8. Location of power line.
9. Location of septic tank and disposal field.
10. Location of well.
11. Location and description of adjacent roads, etc.
12. Location of easements or rights of way.
13. General contours of site as it will be when finished.
14. Finished grades at all corners of house in relation to crown of road(s).

COPY **PROJECT MANAGER**
COPIE **CHARGÉ DE PROJET**



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

Your file Votre référence

Our file Notre référence

Sylvia Peltz
A/Head, Finance & Administration
Prince George District

RE: Necoslie Band

Capital Project # _____

Title: _____

Amount: 13 200.-

I attach the following documents: 1) B.C.R. # _____
2) Cash Flow and a 3) P.I.C.D.

The following requirements have been met:

For an Advance:

- ☒ Technical Terms & Conditions have been agreed to by the Band.
- ☒ The scope of the work proposed is technically feasible.
- ☒ The cost estimate is appropriate.
- ☒ The Cash Flow is reasonable.
- ☒ An initial cash advance of \$ 10 500.- is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- _____ 1984/85 Audit has been received and reviewed.
- _____ Certificate of Progress & Expenditure Report Attached.
- _____ Project Progress & Expenditure Report Attached.
- _____ Terms & Conditions have been met, and the Band has performed the specific service.
- _____ Release further funds in the amount of \$ _____ for the above Capital Project.

RECOMMENDATION - DIST. HEAD OF BAND OPERATIONS

P. J. J. J.
DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 of the F.A.A.

Canada

November 9, 1984

E4380-614

Necoslie Band

Attention: Chief and Council

RE: BCR 985/614-27 (84/85)
NECOSLIE WATER WORKS UPGRADING

We have received the above noted Band Council Resolution, requesting carry-over of funds received under Project #51109 Necoslie Waterworks Upgrading; for the purpose of expanding the scope of work under the project. This proposal is fully acceptable to us, as long as the work is carried out within the Technical Terms and Conditions of the original contribution agreement.

Through discussion with the Project Officer, Thau Thien, I understand that the design component of the project will cost around \$4,000.00, with the remainder needed for construction next spring. You will recall my October 30th letter concerning your request for \$13,200 in hook-up funds. In the event that the District is not able to provide these funds the Council could consider the alternative of using part of the \$18,834 to offset the resultant deficit in house hook-ups.

Yours truly,

JEFF GOLDIE
HEAD OF BAND OPERATIONS
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

c.c. Ted Takahashi
T.K. Thien, B.C. Region
JOAN Brown

JG/hc



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

August 13th, 1984.

Your file Votre référence

Our file Notre référence

Necoslie Band,
P.O. Box 1329,
FORT ST. JAMES, B.C.,
VOJ 1P0

E4380-614-D44

Attention: Chief James T. Prince.

Dear Chief Prince:

Re: Necoslie Subdivision Completion.

I have received your August 3rd, 1984 letter regarding the requirement for additional funding to complete lot servicing at Indian Reserve No. 1.

This capital requirement will be given due consideration for funding from surpluses, along with several other projects identified by Bands in this District. However, we cannot at this time, make a commitment to the Band to fund this project in the current year.

In addition, we will ask the Project Officer to provide details as to cost and scope of the required additional works, so that this item can be included in the November update of the District Listing of Capital Priorities.

Yours truly,

Jim Fleury, Jr.
JIM FLEURY, JR.,
DISTRICT MANAGER,
PRINCE GEORGE DISTRICT,
209 - 280 VICTORIA STREET,
PRINCE GEORGE, B.C.,
V2L 4X3

cc. ✓ Jeff Goldie,
Head, Band Operations.

T.K. Thien, Project Engineer,
B.C. Region.

Alex Miller, District Engineer.

Canada

A0430857_86-000923

August 13th, 1984.

Necoslie Band,
P.O. Box 1329,
FORT ST. JAMES, B.C.,
VOJ 1P0

E4380-614-D44

Attention: Chief James T. Prince.

Dear Chief Prince:

Re: Necoslie Subdivision Completion.

I have received your August 3rd, 1984 letter regarding the requirement for additional funding to complete lot servicing at Indian Reserve No. 1.

This capital requirement will be given due consideration for funding from surpluses, along with several other projects identified by Bands in this District. However, we cannot at this time, make a commitment to the Band to fund this project in the current year.

In addition, we will ask the Project Officer to provide details as to cost and scope of the required additional works, so that this item can be included in the November update of the District Listing of Capital Priorities.

Yours truly,

JIM FLEURY, JR.,
DISTRICT MANAGER,
PRINCE GEORGE DISTRICT,
209 - 280 VICTORIA STREET,
PRINCE GEORGE, B.C.,
V2L 4X3

cc. Jeff Goldie,
Head, Band Operations.
T.K. Thien, Project Engineer,
B.C. Region.
Alex Miller, District Engineer.

Telephone 996-8228

Necoslie Band Council

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

61833 AUG -8 A10:13

P.O. Box 1329
Fort St. James, B.C.
VOJ 1P0

August 03, 1984

Indian Northern Affairs Canada
Prince George District
#209 - 280 Victoria Street
PRINCE GEORGE, B.C.
V2L 4X3

Attention: Mr. J. Fleury
District Manager.

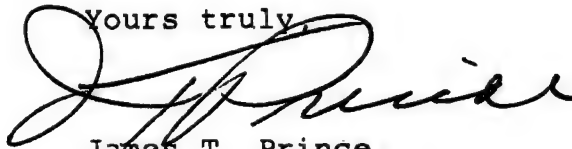
Dear Sir:

RE: NECOSLIE RESERVE NO. 01
42 LOT SUBDIVISION COMPLETION

Construction of the Necoslie Waterworks Phase II -
1984 Distribution System Improvement project was com-
pleted one month ahead of schedule.

The attached letter was sent out June 18, 1984,
but has not been acknowledged. I would appreciate
it if you would keep our request on your active files.

Thank you for your co-operation.

Yours truly,

James T. Prince,
Chief Necoslie Band.

JTP/11b

Enclosure - 1

June 18, 1984

Indian and Northern Affairs
P.O. Box 1000
800 Burrard Street
Vancouver, B.C.
V6Z 2J3

Attention: T.K. Thien, P. Eng.

Dear Sir:

Re: Necoslie Indian Reserve No. 1
42 Lot Subdivision Completion

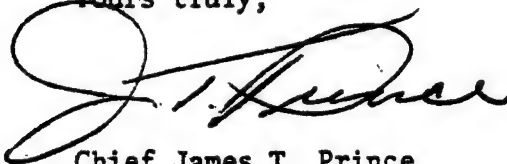
Construction of the 1984 Necoslie System Improvement project is now complete. During execution of the work economics were realized and surplus monies were expended in servicing additional lots and extending watermains into two cul-de-sacs in the new subdivision. A total of 21 lots are now serviced, unfortunately they can not be built on because of access and sewage disposal problems.

In order to utilize these lots the extension of sanitary sewer mains and services as well as road construction is required. Urban Systems Ltd. has already completed this design work and we have the design drawings on file.

At this time we request any surplus monies this fiscal years budget be made available to complete the above identified works or that funding be made a high priority under the 1985/86 fiscal budget.

Should you require any additional information please call.

Yours truly,



Chief James T. Prince
c.c. - A. Miller, INAC

FROM / DE

A. Miller

File No. (originator) — Dossier n° (source)

E 4380 - 614

TO / À

J. Goldie

File No. (addressee) — Dossier n° (destinataire)

Subject - Objet

Necastle Water & Sewage Systems
Request for additional funds.
File E4380 - 614 items 61833 & 59311

Item 61833 on this file refers to item 59311 which was referred to yourself & Manfred Malzahn by me on July 28 (see file cover). It appears that it (file) has not reached you.

The Necastle request should be included on the list of potential projects for distribution of any "surplus" capital that may appear.

Signature

Alex. A. Miller

Date

10 Aug 89

Telephone

Reply - Réponse

7540-21-023-0717

Signature

Date

Telephone

USL urban systems ltd.
consulting planners and engineers 60225

JUL 12 10 35

July 11, 1984

Our File: E659-4

Grizzly Contracting Ltd.
5509 Moriarty Place
Prince George, B.C.
V2N 3P3Attention: Mr. Dick Crewe

Dear Sir:

Re: Necoslie Waterworks - Phase II - 1984 Distribution System ImprovementsAttached please find your copy of the executed Construction Completion
Certificates for the above referenced project.

Yours truly,

URBAN SYSTEMS LTD.

Gary Stickel, C.E.T.
GS/jcc.c. - T.K. Thien
- A. Miller

SUBSTANTIAL COMPLETION

Released under the Access

to Information Act

Communiqué en vertu de la

Loi sur l'accès à
l'informationAND
CONSTRUCTION COMPLETION CERTIFICATES

PROJECT NECOSLIE WATERWORKS - PHASE II - 1984
DISTRIBUTION SYSTEM IMPROVEMENTS JOB NO. E659-4
 LOCATION NECOSLIE INDIAN RESERVE
 OWNER NECOSLIE INDIAN BAND
 CONTRACTOR GRIZZLY CONTRACTING LTD.
 PROJECT DESCRIPTION CONSTRUCTION OF WATER DISTRIBUTION SYSTEM INCLUDING MAINS,
SERVICES, FIRE HYDRANTS AND THE INSTALLATION OF INDIVIDUAL PRESSURE REDUCING
VALVES ON SERVICE CONNECTION LINES.

SUBSTANTIAL COMPLETION

I, D.B. McKerracher, P. Eng...... of the firm of Urban Systems Ltd.,
 Consulting Engineers, hereby certify that the project described above has been
 constructed according to Specifications and is complete as defined by the
 Contract Documents. I hereby recommend this project be accepted as
 substantially complete and hereby state the facilities may be used for the purpose
 for which they were intended.

LIST OF DEFICIENCIES NIL

Holdback for deficiencies will be as specified in Article 45 of the General
 Conditions within the Contract Documents.



P. Eng. Seal

[Redacted] PROJECT ENGINEER
[Redacted] AUTHORIZED COMPANY
 Urban Systems Ltd. OFFICIAL
 JUNE 15, 19 84 DATE

APPROVED ON 5/6/84 19

[Redacted] X
 OWNER OR OWNER REPRESENTATIVE

CONSTRUCTION COMPLETION

I hereby certify that the items listed as deficiencies have now been corrected
 and recommend that this project be accepted as complete.



P. Eng. Seal

DATE JUNE 15, 19 84

APPROVED ON 5/6/84 19

[Redacted] PROJECT ENGINEER
[Redacted] OWNER OR OWNER REPRESENTATIVE

APPROVED ON _____ 19 _____

 APPROVING OFFICER

 TITLE

MAINTENANCE PERIOD EXPIRY DATE JUNE 15, 19 85
 A0430857_92-000929

USL urban systems ltd.
consulting planners and engineers

61170

JUL 24 P2 02

July 23, 1984

Our File: E659-4

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Chief James T. Prince

Dear Sir:

Re: Necoslie Waterworks - 1984 Distribution Completion.

"HOLDBACK RELEASE"

In accordance with the requirements of the Contract for the above referenced project, Grizzly Contracting Ltd. have provided the following documents as required by Article 47 of the General Conditions:

1. Statutory Declaration dated July 3, 1984
2. A letter from the Workers Compensation Board dated June 25, 1984.
3. A statement that all claims and demands for extra work have been presented and they agree with the Contract Sum established on Progress Estimate No. 2 (final)
4. A rider to the Performance and Labour and Materials Bond increasing the respective amount to reflect the total Contract Sum of \$312,001.80

Photocopies of the above listed documents are attached for your reference.

Progress Estimate No. 2 (final) dated June 19, 1984 indicates a holdback of \$46,800.27. The Construction Completion Certificate is dated June 15, 1984 and release of the holdback, subject to lien check is due 45 days later or on July 30, 1984.

Should you have any questions, please do not hesitate to call.

Yours truly,

Gary Stickel, C.E.T.

GS/jc

c.c. - T.K. Thien

- [Redacted]

- Grizzly Contracting

CANADA
PROVINCE OF
BRITISH COLUMBIA

IN THE MATTER OF The "CANADA
EVIDENCE ACT " and in the matter of certain
disbursements made in connection with
construction of : NECOSLIE WATERWORKS
PHASE II - 1984. DISTRIBUTION SYSTEM
IMPROVEMENTS

TO WIT:

Between: GRIZZLY CONTRACTING LTD. of: [REDACTED]
[REDACTED] of the
first part and NECOSLIE INDIAN BAND of Fort
St. James, B.C. of the second part.

I,

[REDACTED]
being President of the firm Grizzly Contracting Ltd.

in the Province of British Columbia

do solemnly declare

I. That all liabilities incurred by the said Contractor or
Contractors in connection with the aforementioned Contract
have been paid, including:

- (a) All wages for the various classes of labour.
- (b) All materials and supplies.
- (c) Amounts due Sub-Contractors.
- (d) All other bills of every nature.

II. That there is no claim of lien accruing for labour or
services performed of materials furnished or otherwise
in connection with the said works.

AND I make this solemn declaration, conscientiously believing it to be true and knowing that it is of
the same force and effect as if made under oath.

DECLARED before me

at [REDACTED]

in the Province of British Columbia,

this

3rd

day of

July

A. D. 1984

**WORKERS'
COMPENSATION
BOARD** OF BRITISH COLUMBIA

6951 Westminster Highway,
Richmond, B.C.
V7C 1C6
Telephone 273-2266
Telex 04-357722

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information

Necoslie Indian Band
c/o Prince George Office

25th June, 1984

Dear Sirs:

Re: Grizzly Contracting Ltd.
Firm No. 228177-143
Projects:

Further to your recent enquiry, we confirm that the above firm:

- ☒ has satisfied assessment requirements to 31st March, 1984
- ☐ is delinquent to assessment.
- ☐ is cancelled as an employer as of _____ and is in good standing to that date.
- ☐ has just recently registered as an employer and is not yet required to remit.
- ☐ does not appear to be registered as an employer.

Yours truly,

[K. G. ROBERTSON]

Per _____

Collections Section
Assessment Department
Telephone: 276-3080

Form 18M72

A0430857_95-000932

When writing please refer to

DEPARTMENT
Information

GRIZZLY Contracting Ltd.

URBAN SYSTEMS Ltd.

PRINCE GEORGE BC

Att. G. Stickel

DATE

July 3/84

SUBJECT

FINAL Progress Estimate

MESSAGE

Re NECOSIE ~~WATER~~ WATER DISTRIBUTION SYSTEM.
Improvements.

WE HAVE REVIEWED PROGRESS ESTIMATE
NO. 2 (FINAL) PREPARED BY YOURSELVES FOR
THE ABOVE MENTIONED PROJECT AND AGREE
WITH YOUR FINAL CONTRACT SUM OF \$312,001.80

WE HAVE NO FURTHER CLAIMS AGAINST THE
NECOSIE INDIAN BAND OTHER THAN THE
15% HOLDBACK, WHICH ARE DUE 45 DAYS AFTER THE
DATE OF THE CONSTRUCTION COMPLETION CERTIFICATE.

GRIZZLY Contracting Ltd.

USE LOWER PORTION FOR REPLY

REPLY FROM

DATE

RIDER #1

Date, JUNE 19TH, 1984.

This rider to be attached to and form a part of Bond No. BND 347 54 11

issued by THE CONTINENTAL INSURANCE COMPANY

to NECOSLIE INDIAN BAND

on behalf of GRIZZLY CONTRACTING LTD.

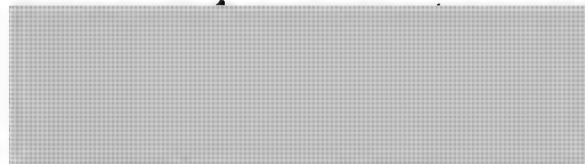
in the amount of -ONE HUNDRED FIFTY-THREE THOUSAND THREE HUNDRED SEVENTY-THREE 00/100 Dollars
(SEE NEW AMOUNT BELOW)

This rider is effective as of noon on the 18TH day of JUNE 1984.

IT IS HEREBY UNDERSTOOD AND AGREED THAT:

1. IN CONSIDERATION OF AN ADDITIONAL PREMIUM CHARGE OF \$29.00
WE HEREBY ACKNOWLEDGE THE CONTRACT PRICE BE AMENDED TO
\$312,001.80 EFFECTIVE JUNE 18TH, 1984. OUR PENAL SUM FOR
THE 50% PERFORMANCE BOND AND 50% LABOUR AND MATERIAL PAYMENT
BOND WILL NOW READ \$156,000.90
2. ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME.

THE CONTINENTAL INSURANCE COMPANY



July 23, 1984

E4380-614 (010)

Necoslie Band
P.O. Box 1329
FORT ST. JAMES, B.C.
V0J 1P0

RE: B.C.R. #985/614-08 (84/85)
Necoslie Waterworks

Enclosed please find your copy of the abovementioned Band Council
Resolution for your records which has been approved.

Yours truly,

JOAN BROWN
A/BAND OPERATIONS CLERK
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
PRINCE GEORGE, B.C.
V2L 4X3

Enclosure

Vancouver, B.C., V6Z 2J3

July 16, 1984.

District Manager
Prince George District

60750

JUL 18 P1 43

Your file Votre référence

Our file Notre référence

E4214-614

Re: Necoslie Contribution Agreement
BCR#985/614-08
\$360,000.00

The Regional Director of Operations has approved the proposed allocation as outlined in the above-noted submission.

All expenditures are to be executed in accordance with the terms and conditions of the Contribution Agreement.

Mail

fu
Doreen Mullins,
Director Local Government,
B.C. Region.

ROUTING SLIP
CONTRIBUTION AGREEMENTS

Released under the Access
to Information Act

District Office Prince George Contribution Agreement/BCR # 985/614-08 (84/85)
 Program Band Operations Originator's Signature Loi sur l'Accès à l'information
 Recipient Necoslie Date of Contribution Agree. June 12, 1984
 Value of this Contr. Agree. \$ 360,000.00 Date Contribution Agree./BCR received in District Office June 20, 1984
 Prior Agreements for this purpose \$ Nil
 Total - This Purpose \$ 360,000.00

All other Agreements - Year to Date for this Band \$ 1,452,927.00

Total Value of Contribution Agreements/BCR to date \$ 1,812,927.00

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	* DATE OUT	INITIALS
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations *	<u>O.K.</u>	<u>For your recommendation</u>	<u>20.06.84</u>		<u>[Signature]</u>
Head, Finance & Admin		<u>Counter signature required as Region</u>		<u>21/6/84</u>	<u>[Signature]</u>
District Manager				<u>21/6/84</u>	<u>[Signature]</u>

* If the time between date in and date out exceeds two working days, provide reason below:

u

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	* DATE OUT	INITIALS
① Director, Band Ops	<u>OK</u>		<u>4.7.84</u>	<u>4.7.84</u>	<u>LD</u>
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
② Capman	<u>OK</u>		<u>24/07/84</u>	<u>24/07/84</u>	<u>[Signature]</u>
③ Finance	<u>OK</u>	<u>incomplete</u>	<u>4/67</u>	<u>4/67</u>	<u>[Signature]</u>
④ Director of Operations		<u>PLS. Approve</u>			
Regional Director Gen.					

* If the time between date in and date out exceeds two working days, provide reason below:

B.C. REGION INDIAN AND INUIT AFFAIRS
CONTRIBUTION AGREEMENT/B.C.R. CHECKLIST

FINANCE

- ☒ Recipient clearly identified
- ☒ Expenditure plan broken down by planning variable
- ☒ Signing date specified
- ☒ Purpose of agreement clearly stated
- ☒ Effective date and termination date specified
- ☒ Cash flow
- ☒ Maximum of three months advance at one time
- ☒ Quarterly or more frequent financial reports specified
- ☒ Conditions for final payment (i.e. proof of goods delivered)
- ☒ Annual audit provision
- ☒ Terms and conditions attached as required
- ☒ Financial and operational certification at appropriate level

Signature

Mark Alton

Date

June 18/84

*Canby
Signature
Required*

PROGRAM

- ☒ Will the contribution agreement achieve the desired impact?
- ☒ Is this the best use of all allocated funds? (Value for \$s spent)
- ☒ Is there a more effective way to achieve the Band's, Association's or individual's goal?
- ☒ Is recipient capable of fulfilling the terms and conditions?
- ☒ Is the total amount of the Contribution within the manager's signing authority?

IF A CAPITAL PROJECT

- ☒ Is a fully authorized Project Initiation Document attached?
- ☒ Are technical terms and conditions attached?
- ☒ Is a project officer assigned?

Signature

A. Blomfield 4/10/80

Date

June 20/84



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et Inuit

BAND COUNCIL RESOLUTION 50143
RÉSOLUTION DE CONSEIL DE BANDE

Chronological No. / Numéro chronologique
to Information Act / Communiqué en vertu de la
985/614-08 (84/85)
File Reference - No. de réf. du dossier
E4215-4-614; E4380-614

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds
NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	Necoslie Indian Band	Current Capital Balance Solde de capital	\$
AGENCY DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$
PLACE NOM DE L'ENDROIT	FORT SAINT JAMES	Committed - Engagé	\$
DATE	DAY - 12 MONTH - 06 AD 19 84		
	DAY - JOUR MONTH - MOIS YEAR - ANNEE		

DO HEREBY RESOLVE;
DÉCIDE, PAR LES PRÉSENTES:

- AND request the sum of Three Hundred and Sixty Thousand (\$360,000.00) dollars for the completion of the Waterworks Upgrading Project (#51109) on the Necoslie Indian Reserve #1.
- AND that this project shall be administered in accordance with the attached Technical Terms and Conditions for the Construction of Waterworks (phase II) on Necoslie Indian Reserve #1, schedule I - V.
- AND that the Project Manager for the Project is Chief Councillor James T. Prince, who will be responsible for ensuring the project is implemented in accordance with the Technical Terms and Conditions and the Terms of Reference for the Project Manager (schedule III.0)
- AND that the Project Officer appointed by the Department of Indian Affairs and Northern Development is Mr. T.K. Thien, and that the Terms of Reference for the Project Officer are attached as schedule IV.
- AND that the cash flow forecast for this Project is as shown in schedule V.
- AND that we further agree to administer these funds in accordance with our Local Service Agreement dated June 10, 1980.
- AND that this agreement will commence on the date approved and expire on July 31st, 1985.
- AND that these funds are required for the 1984/85 fiscal year ending March 31, 1985.

A quorum for this Bande
Pour cette bande le quorum est

consists of
fixé à FIVE (5)
Council Members
Membres du Conseil

**COMMITMENT
CERTIFICATE**

No. 80501 6271
\$243

This is to certify that this contribution
arrangement meets the financial require-
ments outlined in the Minister's letter of
July 8, 1980.

Financial Officer Date

Carl Rea
(Councillor - conseiller)
Mark Barlow
(Councillor - conseiller)

Robert Prince
(Councillor - conseiller)
Elaine Prince
(Councillor - conseiller)

Robert Prince
(Councillor - conseiller)
Elaine Prince
(Councillor - conseiller)

APPROVED:

DIRECTOR OF OPERATIONS

FOR DEPARTMENTAL USE ONLY - RÉSERVE AU MINISTRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses	4. Authority Autorité
	A. Capital	B. Revenue - Revenu		
	\$	\$	\$ 360,000.00	Indians
6. Recommended - Recommandable			Approved - Approuvable	
Date 21/6/84 Dist. Head of Band Operations Recommending Officer - Rec			Date 21/6/84 District Manager Approving Officer - Approuvé par	

Your file Votre référence

Our file Notre référence

E4380-614

Sylvia Peltz
A/Head, Finance & Administration
Prince George District

RE: Necoslie Band
Capital Project # 51109
Title: Water Works
Amount: 360,000.00

I attach the following documents: 1) B.C.R. # 985/614-08 (84/85)
2) Cash Flow and a 3) P.I.C.D.

The following requirements have been met:

For an Advance:

- YES Technical Terms & Conditions have been agreed to by the Band.
YES The scope of the work proposed is technically feasible.
YES The cost estimate is appropriate.
YES The Cash Flow is reasonable.
YES An initial cash advance of \$ 170,000 is required to meet
three months' cash requirements for the Capital Project.

For Further Release of Funds:

- 1984/85 Audit has been received and reviewed.
Certificate of Progress & Expenditure Report Attached.
Project Progress & Expenditure Report Attached.
Terms & Conditions have been met, and the Band has performed the
specific service.
Release further funds in the amount of \$ _____ for the above
Capital Project.


RECOMMENDATION - DIST. HEAD OF BAND OPERATIONS


DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 of the F.A.A.

Canada

SCHEDULE I
TECHNICAL TERMS AND CONDITIONS
TO THE CAPITAL CONTRIBUTION ARRANGEMENT
FOR
THE CONSTRUCTION OF WATERWORKS (PHASE II)
ON
NECOSLIE INDIAN RESERVE #1

The following Technical Terms and Conditions for the construction of waterworks on Necoslie Indian Reserve No. 1 are pursuant to the Memorandum of Agreement between her Majesty the Queen in the right of Canada or represented by the Minister of Indian Affairs and Northern Development and the Necoslie Band of Indians dated June 10, 1980 and shall apply to the 1984/85 contribution for the project.

I. PROJECT DEVELOPMENT

In may 1983, Urban Systems Ltd. completed the design of the improvements waterworks for the upgrading of the existing water system at Necoslie Water System.

Due to limitation of District budget, a portion of the designed waterworks was completed by contract during the 1983/84 fiscal year. Capital funds amounting to \$360,000 are available under the current 1984/85 fiscal year to complete the improvement water works for the upgrading of the existing water system at Necoslie Indian Reserve #1.

II. SCOPE OF WORK

The work under this contribution arrangement includes:

1. The award of a service contract to provide construction management and engineering services during construction of water-works in accordance to the Terms of Reference as described in Schedule II.
2. The award of a contract for the construction of the following:
 - 735 m of Ø 200 mm watermain
 - 1640 m of Ø 150 mm watermain
 - 1 # Ø 200 mm valves
 - 2 # Ø 150 mm valves
 - 18 # Ø 19 mm to Ø 25 mm service connection
 - 12 # Fire hydrant
 - 80 # Individual PRV

III. GENERAL

1. PROJECT MANAGER

The Project Manager for the project, Chief Councillor James Prince will be responsible for ensuring the project is implemented in accordance with the

Technical Terms and Conditions and that the constraints of cost, quality, and time are met. Terms of Reference for the Project Manager are attached as Schedule "III" herein.

2. PROJECT OFFICER

Mr. T.K. Thien has been appointed by the Director of Engineering and Architecture to work in co-operation with the Project Manager and to assist in technical monitoring of the progress of the works. Terms of Reference for the Project Officer are attached as Schedule "IV".

IV. REQUIREMENTS OF THE BAND

1. Retain a firm or firms of Consulting engineers licensed to practice in the Province of British Columbia, to provide the construction management and engineering services during construction of the waterworks in accordance with the Terms of Reference as described in Schedule "II".
2. Have the plans and specifications prepared in a format and style satisfactory to the Department.
3. Award a construction contract for the water-works.
4. Have the originals of the drawings, etc. prepared by the Consultant sent for retention to the Director, Engineering & Architecture.
5. When entering into contracts with the Consultant and contractors to use contract forms satisfactory to the Department.
6. To provide to the Project Officer every opportunity for him to assist and advise the Band in the Successful completion of the project.
7. Upon completion of the project and prior to the release of the final payment, the Band Council shall provide the Department when applicable with a statutory declaration attesting all claims and accounts against the project have been paid.
8. Agree that any funds contributed to the Band under this contribution and not spent on the project in accordance with the scope of work are to be held by the Band, until advised by the Department, on what Capital Project in the community of Necoslie they may be spent.
9. Agree that the Project Officer, in consultation with the Project Manager only may decide on what constitutes a charge against the project.
10. Contribution funds are deposited in an account to be used only for this project. The only cheques to be written on it are to be those for expenses incurred with respect to the project.

V. REQUIREMENTS OF THE DEPARTMENT

1. Expediously review the drawings and reports as required so as to cause no delay.
2. Process valid progress payments expeditiously so as not to detrimentally affect project financing and completion schedules.

VI. RECORDS

1. The Band Council shall maintain a filing system in which is a copy of Minutes of Band Council meetings, all By-laws, and copies of vouchers, bank statements, cancelled cheques and correspondence relating to business of the Band in administering and carrying out the planning and implementation of approved Capital Project. The Department will have the right of access at all reasonable hours to all financial and other records mentioned above.
2. The Band Council shall establish and maintain an acceptable accounting and bookkeeping system that includes a general ledger from which costs can be extracted.
3. The Band shall have approved by the Department acceptable policies and procedures pertaining to financial management internal control.
4. The Band Council will prepare:
 - (a) Band Account Reconciliations upon receipt of bank statements and cancelled cheques.
 - (b) Monthly listings of Accounts Receivable and Accounts Payable balanced to General Ledger control accounts.

VII. METHOD OF PAYMENT

Payment will be based on estimated cash flows plan attached as Schedule "V". An amount equal to the first month's cash required shall be advanced to the Band as the working capital towards this project. Subsequent payment will be released on a regular progress draw basis supported by certified claims.

VIII. TERMINATION

The Project Officer may terminate the project if in his opinion the work being performed:

- endangers the rights, health and safety of any persons,
- constitutes mismanagement of program.

7. The following attachments are essential parts of the agreement, and their terms and conditions regarding financing and construction will be adhered to by the Tsawataineuk Band. (Delete those not applicable)

Attachments

1. New Construction.
 2. Renovations.
 3. Cash Flow.
 4. Scope of work (Renovations).
8. Changes in the scope or total cost of this project require prior approval of both the Council and the Department before additional commitments are made. Unauthorized over-expenditures will be the responsibility of the Band Council.
9. Where appropriate, contracts will be awarded in accordance with generally accepted contracting procedures.
10. Passed at a duly convened meeting of the Tsawataineuk Band Council on June 28, 1984.

THIS IS TO CERTIFY THAT THIS CONTRIBUTION
ARRANGEMENT MEETS THE FINANCIAL
REQUIREMENTS OUTLINED IN THE MINISTERS
TELEX OF JULY 3, 1980.

J. P.
FINANCIAL OFFICER

3 JUL 89
DATE

C/C # 80409

A quorum for this Bande
Pour cette bande le quorum est

consists of 2
fixé à

Council Members
Membres du Conseil

Edward Dawson
(Chief - Chef)

Billy Robertson
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

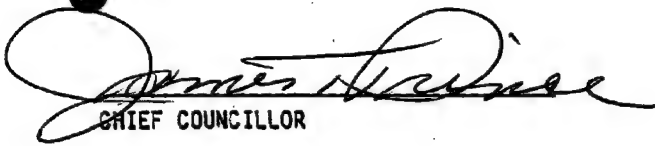
(Councillor - conseiller)

(Councillor - conseiller)

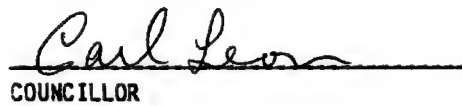
(Councillor - conseiller)

(Councillor - conseiller)

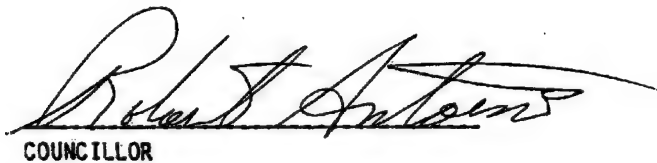
FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens
	A. Capital	B. Revenue - Revenu		5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	\$	\$	\$	
6. Recommended - Recommandable			Approved - Approuvable	
<u>84/07/03</u> Date <u>Robert J. ...</u> Recommending Officer - Re			<u>12/07/84</u> <u>[Signature]</u> Approving Officer - Approuvé par DIRECTOR OF OPERATIONS BRITISH COLUMBIA REGION	


CHIEF COUNCILLOR


COUNCILLOR


COUNCILLOR


COUNCILLOR


COUNCILLOR

COUNCILLOR

COUNCILLOR


WITNESS

WITNESS

SCHEDULE "V"

PROJECTED CASH FLOW PLAN

JUNE, 1984	-	\$170,000
JULY, 1984	-	\$130,000
AUGUST, 1984	-	\$ 60,000

SCHEDULE II
TERMS OF REFERENCE
FOR THE
CONSTRUCTION MANAGEMENT AND ENGINEERING SERVICES
DURING CONSTRUCTION OF WATERWORKS (PHASE II)
AT
NECOSLIE INDIAN RESERVE #1

1. BACKGROUND AND REFERENCE

A portion of the improvement water-works at Necoslie Indian Reserve #1 was completed by contract during the 1983/84 fiscal year.

Capital funds are available under the current 1984/85 fiscal year to complete the improvement water-works to upgrade the existing water system at Necoslie Indian Reserve #1.

2. OBJECTIVE

The objective of this contract is to provide the construction management and engineering services during construction of the water-works at Necoslie Indian Reserve #1.

3. SCOPE OF WORK

The work of this contract is comprised of but necessarily limited to the following:

3.1 Construction Management Service

The construction management service shall include but is not necessarily limited to:

1. Prepare all tender and contract documents necessary to obtain tenders on behalf of the Necoslie Indian Band.
2. Produce and assemble the tender/contract packages.
3. Reply to questions during tendering.
4. Issue addenda if required.
5. Witness the opening of tender(s).
6. Assess the tender(s).
7. Recommend the award of tender to the Necoslie Indian Band.
8. Assist in completing the contract documents.
9. Check and certify the monthly progress claim of the contractor.
10. Prepare for change orders as required and include a detailed description of the necessity for such changes, the quantities involved, the inspector's estimate and the contractor's quote.
11. Liaise between the contractor and the Necoslie Indian Band and to resolve any conflicts which arise between these parties during the construction.

12. Arrange for such non-resident services as concrete testing, and materials testing as directed/or approved by the Project Manager.
13. Arrange and attend regular site meetings.
14. Prepare interim (if required) and final completion certificates.
15. Ensure that all necessary approvals have been obtained.

3.2 Site Engineering Service

The Consultant shall provide site engineering service on a full-time basis until the completion of the works, to ensure that the project works are constructed in accordance with and to the intent of plans and specifications. The site engineering service is comprised of, but not necessarily limited to:

1. Inspect, monitor, measure and test the constructed works.
2. Re-design any works as required by site conditions.
3. Recommend substitution of materials, if required.
4. Resolve any construction problems.
5. Maintain a photographic history of the works which shall include photographs of the site of the works before and after construction, photographs of all sections of the works, photographs of all charges or deviations from the plans and specifications.
6. Provide the following documentation to the Project Manager: The daily activities of the Contractor and weekly summaries which will include the Contractor's progress, equipment and labour employed, problems encountered, solutions to problems and unusual occurrences.

3.3 The Consultant shall compile and submit a completion report. The completion report to be in general accordance with the format outlined in Annex "D". One copy of the report to be sent to the Band and District Engineer and two copies to the Project Officer.

3.4 The Consultant shall prepare and submit as built record drawings in general accordance with requirements outlined in Annex "A". The information required to prepare as built drawings shall be recorded as the work is done and is subject to inspection by the Project Manager and the Project Officer. The completed as built drawings shall be turned over to the Project Officer for storage in the B.C. Region Engineering and Architecture drafting room.

3.5 The Consultant shall compile and complete an Operation and Maintenance manual. These shall be in general accordance with the format outlined in Annex "B".

4. PROJECT MANAGER

For the purpose of this contract, the Project Manager is Mr. James Prince, Chief Councillor, and the Project Officer is Mr. T.K. Thien, Region Engineering and Architecture.

All correspondence should be addressed to:

Necoslie Band Council
Box 1329
Fort St. James, B.C.
V0J 1P0
Attention : Mr. James Prince

With copy to:

Director
Engineering & Architecture Services
Department of Indian and Northern Affairs
P.O. Box 1000
800 Burrard Street
Vancouver, B.C., V6Z 2J3
Attention: Mr. T. K. Thien, P. Eng.

5. The Consultant shall have no authority to direct the contractor to make changes to the plans and specifications without written approval by the Project Manager except as detailed in Item 6, below.

6. EMERGENCY SITUATIONS

If in the case of an emergency either for the Consultant, the owner or the contractor, the Consultant shall be permitted to undertake such action as is deemed necessary by his representative to ensure the immediate safety of the project or persons involved.

7. The construction contract will be between Necoslie Indian Band and a construction contractor selected by public tender.

8. CONSULTANT'S PROPOSAL

The Consultant shall include in his proposal the names and resumes of personnel to be employed in carrying out the work of these Terms of Reference.

The hourly chargeout rate shall be shown for all personnel.

The percentage surcharge, if any, for each kind of anticipated disbursement shall be shown. An estimated cost shall be computed for each item shown under scope of work based upon estimated time which may be foreseen.

9. COST CONTROL

If at any time during the progress of the work the Consultant considers his contract fee will be exceeded, he shall immediately provide the Project Manager with complete details in writing.

AT NO TIME SHALL THE CONTRACT FEE BE EXCEEDED WITHOUT PRIOR WRITTEN
APPROVAL BY THE PROJECT MANAGER.

SCHEDULE "III"

TERMS OF REFERENCE
FOR
PROJECT MANAGER

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to Information Act
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Loi sur l'Accès à
l'information*

The following will be the responsibilities of the Project Manager:

1. To manage the project to full Band and Department satisfaction.
2. To identify areas in which technical assistance is required.
3. To comply with the following guidelines of the Department of Indian Affairs and Northern Development:
 - DRM 10-7/42.5 "Guidelines for the Preparation of Contribution Arrangements with Band Councils".
 - DRM 10-7/37 "Construction Contracting Guidelines for Band Councils".
4. To make prompt payments to Consultant on all invoices in accordance with terms agreed.
5. To co-operate with Project Officer on unforeseen problems, job conditions and all situations requiring negotiation for the mutual interest of an early and satisfactory completion of the work.
6. To keep complete and appropriate records on the Project.
7. To ensure monthly financial reporting to the Project Officer.
8. To assist and participate in the post-evaluation of the project.

SCHEDULE "TV"

TERMS OF REFERENCE
FOR
PROJECT OFFICER

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information*

The following will be the responsibilities of the Project Officer:

1. To ensure the satisfactory completion of the project on schedule and within estimated cost.
2. To provide advice to the Band and the Project Manager in all phases of the project.
3. To determine with the Project Manager the technical services to be provided by I.N.A. and arrange for the provision of those services, particularly:
 - Prepare terms of reference for the Band/Project Manager.
 - Monitor or review project work and progress and advise the Band re quality, acceptance, etc.
4. To ensure the Contribution Arrangement provides for:
 - (a) Conformance with appropriate standards, codes, regulations.
5. To evaluate Band performance on this project and report to Responsibility Centre Manager.
6. To participate in project evaluation.

Project - Projet British Columbia		District Prince George		Released under the to Information Act		Accession 9 8 1 5 8 1	
Necostie I.R. No. 1		Necostie		Communiqué en vertu de la Loi sur l'Accès à l'information		N° de 0 0 6 2 1	
Project Name - Titre du projet Waterworks upgrading		Project No. - N° de projet 5 1 1 7 1 0 1 9		BCR - RCB Information		Date Y-A M D-J 8 4 0 4 0 1	
Indicate Use of Form Indiquer utilisation de la formule		1) Project Identification Identification du projet		2) Project Change Modification du projet		3) Annual Implementation App App. annuelle d'exécution	
		4) De - Actuelle Mettre hors service		5) Cancel Annulé			
administered by administré par		<input checked="" type="checkbox"/> Band Banette		<input type="checkbox"/> District		<input type="checkbox"/> Region Région	
Project Scope - Portée du projet		Start Date - Date de départ		Comp. Date - Date de ach.		8 5 0 3 3 2	

Design and construction of improvements of waterworks to upgrade the existing water syst.
at Necoslie I.R. No. 1.
- See Capital Project Submission submitted previously.

Project Substantiation - Justification du projet

☐ New Proposal ☐ Replacement Proposal

See previous Capital Project Submission. Increase in the T.E.C. is due to:
- inclusion of central PRV station and individual PRVs.

6091
5243
2025-01-01

Special Factors - Factum particularis

1. Design and Phase I construction completed.
2. C.Y.A. for the completion of the waterworks upgrading by contract.
3. Project Officer is T.K. Thien.

10. Project Change Devoir Modification (5000)		Present Approval - Déjà approuvé 650		Increase Requested - Augmentation demandée 32		Expenditure to Date - Frais déjà dépensés à ce jour			
Project Cost/Funding - Coût/Financement du projet				Expenditure Plan - Plan des dépenses					
<input type="checkbox"/> Estimate Only Cot. de prévisions				Year Année	FY A.P.	Current Courants \$ 000		Phase Étape	Project Étapes
Date						MANC	Bond & Other Bonds & Autres		
Capital Investment \$ 000		Annual O & M Annuelle P & E		Previous Years Années antérieures	15	322 -		2, 3, 4	(1) Identification
Funding Source Source de fonds	Current Courants \$	Constant Constantes \$ 000	FY A.P.	15	360 -			4, 5, 6	(2) Planning Planification
MANC - MANC	682 -	3							(3) Design Conception
Bond - Bonds	-								(4) Construction
	-								(5) Completion
	-								(6) Evaluation
	-								
	-								
	-								
	-								
TOTAL	682 -	3			TOTAL	682 -			

Project Recommendation/Project Change Approval - Recommendation du projet/Approbation de modification

Identification Number Numéro de l'identification		Date Y-A M DJ	
<input type="text"/>		<input type="text"/>	
Level Niveau	Parent Project Number Numéro de projet parent	Approval Approbation	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
Level Niveau	<input checked="" type="radio"/> (1) Single Individuel	<input type="radio"/> (2) Secondary Secondaire	
Approval Approbation	<input checked="" type="radio"/> (1) TS Preliminary C.T. Préliminaire <input type="radio"/> (4) A.C. Prevision	<input type="radio"/> (3) TS Final C.T. Définitif <input type="radio"/> (5) Revised Révisé	<input type="radio"/> (6) TS Preliminary A.C. Préliminaire <input type="radio"/> (7) Parent Project Projet Parent

Exercice Expenditure Authorization - Autorisation des dépenses du projet

verify that the necessary project authorizations have been granted and that the export license plan is in accordance with the approved capital plan.

<p>PROJECT AUTHORIZATION/PROJET D'AUTORISATION CERTIFICATE Pursuant to TD 5047-21, currently in force, the undersigned Project Manager/Chargé de projet and I, in several levels from my Responsibility/Compétence in accordance with the conditions of the document. Contribution is given that the expenditure has been mutually agreed by the project manager and myself.</p>	<p>Responsibility of: Manager - Gestionnaire du CV de <i>P. Shie</i> <i>Waldie</i></p>	<p>Date <i>May 4/89</i></p>
<p>AUTHORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES En vertu du DT 5047-21, le soussigné/chargé du projet m'a confié et autorisé à signer ce projet et à m'engager dans les dépenses de mon mandat de gestionnaire/chargé de projet, dans la mesure où la contribution au projet a été mutuellement acceptée par le gestionnaire du projet et moi-même.</p>	<p>Project Manager/Officier-Gestionnaire/Chargé du projet</p>	<p>Date</p>

A0430857_116-000953

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
Y2L 4X3

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to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

SAMPLING DATE:

June 11, 1984

60289

SAMPLE SOURCE(S)

JUL 13 10 00

Necoslie I.R. Lot 99 Hwy.27
Westside.

RESULTS:

SATISFACTORY

☒

UNSATISFACTORY

☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

☐ 1. Boil All Drinking Water


☐ 2. Disinfect Well As Per
Enclosed Instructions:

☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675, Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine


Zone Director
North East Zone

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

Released under the Access
to Information Act

Communiqué en vertu de la
Loi sur l'Accès à
l'information

SAMPLING DATE: June 11, 1984.

SAMPLE SOURCE(S) Necoslie I.R. Ft.St.James -
Fort Street.

RESULTS: SATISFACTORY ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

☐ 1. Boil All Drinking Water

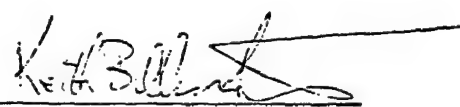
☐ 2. Disinfect Well As Per
Enclosed Instructions:

☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675. Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine


Zone Director
North East Zone

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

SAMPLING DATE: June 11, 1984.

SAMPLE SOURCE(S) Necoslie I.R. Lot #138
Hwy. 27 Eastside.

RESULTS: SATISFACTORY ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

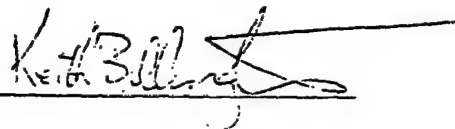
- ☐ 1. Boil All Drinking Water
- ☐ 2. Disinfect Well As Per
Enclosed Instructions:

- ☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675, Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine


Zone Director
North East Zone

Telephone 996-8228

Necoslie Band Council

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l'information

P.O. Box 1329
Fort St. James, B.C.
VOJ 1P0

59311

JUN 28 A9 35

June 18, 1984

Indian and Northern Affairs
P.O. Box 1000
800 Burrard Street
VANCOUVER, B.C.

Attention: T.K. Thien, P. Eng.

Dear Sir:

RE: Necoslie Indian Reserve No. 1
42 Lot Subdivision Completion

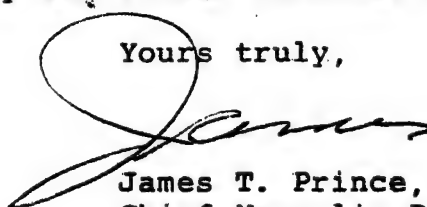
Construction of the 1984 Necoslie System Improvement project is now complete. During execution of the work economics were realized and surplus monies were expended in servicing additional lots and extending water-mains into two cul-de-sacs in the new subdivision. A total of 21 lots are now serviced, unfortunately they can not be built on because of access and sewage disposal problems.

In order to utilize these lots the extension of sanitary sewer mains and services as well as road construction is required. Urban Systems Ltd. has already completed this design work and we have the design drawings on file.

At this time we request any surplus monies this fiscal years budget be made available to complete the above identified works or that funding be made a high priority under the 1985/86 fiscal budget.

Should you require any additional information please call.

Yours truly,



James T. Prince,
Chief Necoslie Band.

JTP/11b

Enclosure

C.C. A. Miller, INAC

Substantial Completion Released under the Access to Information Act / Communiqué en vertu de la Loi sur l'accès à l'information

CONSTRUCTION COMPLETION CERTIFICATES

PROJECT NECOSLIE WATERWORKS - PHASE II - 1984 JOB NO. E659-4
 LOCATION NECOSLIE INDIAN RESERVE
 OWNER NECOSLIE INDIAN BAND
 CONTRACTOR GRIZZLY CONTRACTING LTD.
 PROJECT DESCRIPTION CONSTRUCTION OF WATER DISTRIBUTION SYSTEM INCLUDING MAINS, SERVICES, FIRE HYDRANTS AND THE INSTALLATION OF INDIVIDUAL PRESSURE REDUCING VALVES ON SERVICE CONNECTION LINES.

SUBSTANTIAL COMPLETION

I, D. B. McKeenracher, P. Eng. of the firm of Urban Systems Ltd., Consulting Engineers, hereby certify that the project described above has been constructed according to Specifications and is complete as defined by the Contract Documents. I hereby recommend this project be accepted as substantially complete and hereby state the facilities may be used for the purpose for which they were intended.

LIST OF DEFICIENCIES NIL

Holdback for deficiencies will be as specified in Article 45 of the General Conditions within the Contract Documents.



P. Eng. Seal

[Redacted Signature] PROJECT ENGINEER
Urban Systems Ltd. AUTHORIZED COMPANY
 OFFICIAL
 JUNE 15, 19 84 DATE

APPROVED ON 15/6/84 19

[Signature] OWNER OR OWNER REPRESENTATIVE

CONSTRUCTION COMPLETION

I hereby certify that the items listed as deficiencies have now been corrected and recommend that this project be accepted as complete.



P. Eng. Seal

DATE JUNE 15, 19 84

APPROVED ON 15/6/84 19

[Signature] OWNER OR OWNER REPRESENTATIVE

APPROVED ON _____ 19 _____

 APPROVING OFFICER

 TITLE

MAINTENANCE PERIOD EXPIRY DATE JUNE 15, 19 85

1/2.

ORIGINATING FROM I.E.A. B.C. REGION, VANCOUVER, B.C.

TO:
Dave Danyluk
As District Head of Road
Operation.
Prince George District.

FROM:
T. K. THIEN
B.C. REGION.

AUTHORIZED:

[Signature]

FILE OR OTHER IDENTIFIER:

E 4380-674

10 1.1

TEXT:

RE: NECOSLIE - DWS

Revised signed SEC 27 form
requested

[Signature]

Letter to Finance June 20/84
[Signature]

55742 4420 2470

1/2

DATE:

TIME:

OPERATOR:



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

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to Information Act
#2
Communication en vertu de la
Loi sur l'accès à
l'information

WEEKLY PROGRESS REPORT

JOB No. E659-4
56666 MAY 23 49:12

PROJECT NEOSLIE WATER - PARSEIT WEEK ENDING MAY 18 19 84.
LOCATION NEOSLIE I.R. - FT. ST. JAMES COMPLETION DATE JULY 15 19 84.
OWNER NEOSLIE INDIAN BAND CONTRACTOR GRIZZLY CONTRACTING LTD.
WEATHER MAINLY CLOUDY WITH RAIN SHOWERS 10°C TO 12°C.

ENGINEERING; (CLIENT DIRECTIVES, DESIGN CHANGES, TESTS, INSTRUCTIONS, ETC.)

FORCE ACCOUNT. (FROM BELOW)

- (i) EXTRA WORK ORDER #2 ISSUED TO COVER D-6 CLEARING ON NEW SUB'D.
(ii) EXTRA WORK ORDER #3 ISSUED TO COVER D-8 CLEARING ON NEW SUB'D.

CONTRACTOR; (INCLUDE MEN & EQUIPMENT, WORK PERFORMED, AREAS OF WORK, ETC.)

(1) EQUIPMENT - 235, 225, D-6E, D-8H, 1TON, PICK-UP TRUCK,
WIMP TRUCK.

(2) MEN - SUPERVISOR, 1 FOREMAN, 3 PIPELAYERS, 2 OPERATORS.

(3) WORK PERFORMED - INSTALLATION OF 200¢ AND 150¢ WATER-
MAIN

- & INSTALLATION OF WATER SERVICES. - INSTALLATION OF PRVS.

- CLEARING ON NEW SUB'D. - INSTALLATION OF BALL PARK SERVICE.

(4) AREAS OF WORK - FORT ST., HWY 27 WEST SIDE, CHARLES ST.

GENERAL COMMENTS; (DISCUSS PROGRESS, QUALITY OF WORK, DISCUSSIONS, MEETINGS, ETC.)

NEW SUB'D.

(1) PROGRESS

(i) WATERMAIN 150¢ - TOTAL WEEK'S PRODUCTION = 37.4m

200¢ - " " " = 187.2m

(ii) HYDRANTS - " " " = 3

(iii) HYD. LEAD - " " " = 24.9m

(iv) SERVICES - FORT ST. COMPLETED.

(2) QUALITY OF WORK

QUALITY OF WORKMANSHIP REMAINS GOOD.

FORCE ACCOUNT; (GIVE DETAIL OF EXTRA WORK AUTHORIZED)

(3) DISCUSSIONS & MEETINGS

(i) MEETING WITH CONTRACTOR SETTING RATE OF \$136.80/HR FOR D-8

(ii) MEETING WITH LEONARD THOMAS - DECIDED NOT TO SERVICE ROUNDED
HOUSE ON LOT 104

(iii) MEETING WITH LEONARD THOMAS RE: HOUSE ON LOT 107 - SERVICED
FROM FRONT & PLUMBER TO CONNECT.

(iv) MEETING BETWEEN GARY STICKEL & LEONARD THOMAS - OLD BAND
OFFICE TO BE SERVICED VIA LONG STUB @ REC CENTRE.

DISTRIBUTION CHIEF JAMES T. PRINCE

T.K. THOMAS - INAC

A. MILLER - INAC

OSL

DATE MAY 18 19 84


urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

EXTRA WORK ORDER

 Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

 JOB No. E659-4 EXTRA WORK ORDER No. 2

 SEND
TO

DALE SINCLAIR

 DATE MAY 10, 19 84
GRIZZLY CONTRACTING LTD.

 PROJECT NEEDSIE WATERWORKS
PHASE II

SUBJECT;

CLEARING FOR WATERLINE - NEW SUBD.

DETAILS;

D-G E TO CLEAR LINE FOR NEW WATERLINE ON
ROADS ONE AND TWO.
PRICE TO BE AT THE ~~NEEDSIE~~ RATE OF SEVENTY
DOLLARS (\$70.00) PER HOUR ALL INCLUSIVE.

METHOD OF PAYMENT:

1. CONTRACT UNIT PRICES.
2. LUMP SUM QUOTATION.
3. FORCE ACCOUNT RATES.
4. CREDIT QUOTATION.
5. NO ADDITIONAL PAYMENT.

✓

RECEIVED BY

TOR



RESIDENT ENGINEER


urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

EXTRA WORK ORDER

 (Released under the Access
to Information Act)

 Loi sur l'accès à
l'information

 JOB No. E659-4 EXTRA WORK ORDER No. 3

 SEND
TO

DALE SINCLAIR
GRIZZLY CONTRACTING LTD.

 DATE MAY 14, 19 84

 PROJECT NEOSHE WATERWORKS
PHASE II

SUBJECT;

CLEARING FOR WATERLINE - NEW SUBD.

DETAILS;

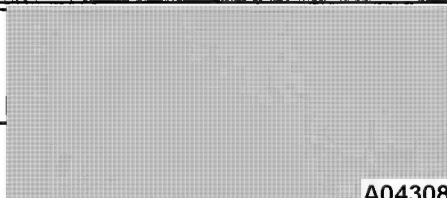
CAT D-8 TO REPLACE D-6E ON CLEARING OPERATION
ON ROADS ONE & TWO.
PRICE TO BE AT THE QUOTED RATE OF ONE HUNDRED
THIRTY-SIX DOLLARS & EIGHTY CENTS (\$136.80) PER HOUR.

METHOD OF PAYMENT:

1. CONTRACT UNIT PRICES.
2. LUMP SUM QUOTATION.
3. FORCE ACCOUNT RATES.
4. CREDIT QUOTATION.
5. NO ADDITIONAL PAYMENT.

<input type="checkbox"/>
<input type="checkbox"/>
<input checked="" type="checkbox"/>
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RECEIVED BY



RESIDENT ENGINEER



Indian and Northern
Affairs CanadaAffaires indiennes
et du Nord Canada

2-2

Your file Votre référence

Our file Notre référence

E4380-614

Sylvia Peltz
A/Head, Finance & Administration
Prince George District

RE: Necoolia Band

Capital Project # 51109

Title: Water Works

Amount: 360,000.00

I attach the following documents: 1) B.C.R. # 985/614-08 (84/85)
2) Cash Flow and a 3) P.I.C.D.

The following requirements have been met:

For an Advance:

- ✓ Technical Terms & Conditions have been agreed to by the Band.
- ✓ The scope of the work proposed is technically feasible.
- ✓ The cost estimate is appropriate.
- ✓ The Cash Flow is reasonable.
- ✓ An initial cash advance of \$ 120,000 is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- 1984/85 Audit has been received and reviewed.
- Certificate of Progress & Expenditure Report Attached.
- Project Progress & Expenditure Report Attached.
- Terms & Conditions have been met, and the Band has performed the specific service.

Release further funds in the amount of \$ for the above Capital Project.

[Signature]
RECOMMENDATION - DIST. HEAD OF BAND OPERATIONS

[Signature]
DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 of the F.A.

Canada

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

Chronological No. **9** *to Information Act*
Communiqué en vertu de la
 File Reference **E4215-4-614; E** *Loi sur l'accès à l'information*

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds

NOTA: Les mots "des fonds de notre bande "Capita!" ou revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE		NECOSLIE INDIAN BAND	Current Capital Balance Solde de capital	\$ _____
AGENCY				
DISTRICT		PRINCE GEORGE DISTRICT	Committed - Engagé	\$ _____
PROVINCE		BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$ _____
PLACE				
NOM DE L'ENDROIT		FORT SAINT JAMES	Committed - Engagé	\$ _____
DATE	12	06	AD 19	84
	DAY - JOUR	MONTH - MOIS	YEAR - ANNEE	

DO HEREBY RESOLVE:
DÉCIDE, PAR LES PRÉSENTES:

AND request the sum of Three Hundred and Sixty Thousand (\$360,000.00) dollars for the completion of the Waterworks Upgrading Project (#51109) on the Necoslie Indian Reserve #1.

AND that this project shall be administered in accordance with the attached Technical Terms and Conditions for the Construction of Waterworks (phase II) on Necoslie Indian Reserve #1, schedule I - V.

AND that the Project Manager for the Project is Chief Councillor James T. Prince, who will be responsible for ensuring the project is implemented in accordance with the Technical Terms and Conditions and the Terms of Reference for the Project Manager (schedule III.)

AND that the Project Officer appointed by the Department of Indian Affairs and Northern Development is Mr. T.K. Thien, and that the Terms of Reference for the Project Officer are attached as schedule IV.

AND that the cash flow forecast for this Project is as shown in schedule V.

AND that we further agree to administer these funds in accordance with our Local Service Agreement dated June 10, 1980.

AND that this agreement will commence on the date approved and expire on July 31st, 1985.

AND that these funds are required for the 1984/85 fiscal year ending March 31, 1985.

A quorum for this Bande
Pour cette bande le quorum est

consists of
fixed at FIVE (5)

Council Members
Membres du Conseil

[illegible]

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens
	A. Capital	B. Revenue - Revenu		
\$	\$	\$	5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue <input type="checkbox"/> Revenu	
6. Recommended - Recommandable			Approved - Approuvable	
Date Recommending Officer - Re:			Date Approving Officer - Approuvé par	

SCHEDULE I
TECHNICAL TERMS AND CONDITIONS
TO THE CAPITAL CONTRIBUTION ARRANGEMENT
FOR
THE CONSTRUCTION OF WATERWORKS (PHASE II)
ON
NECOSLIE INDIAN RESERVE #1

The following Technical Terms and Conditions for the construction of waterworks on Necoslie Indian Reserve No. 1 are pursuant to the Memorandum of Agreement between her Majesty the Queen in the right of Canada or represented by the Minister of Indian Affairs and Northern Development and the Necoslie Band of Indians dated 1984 and shall apply to the 1984/85 contribution for the project.

I. PROJECT DEVELOPMENT

In May 1983, Urban Systems Ltd. completed the design of the improvements waterworks for the upgrading of the existing water system at Necoslie Water System.

Due to limitation of District budget, a portion of the designed waterworks was completed by contract during the 1983/84 fiscal year. Capital funds amounting to \$360,000 are available under the current 1984/85 fiscal year to complete the improvement water works for the upgrading of the existing water system at Necoslie Indian Reserve #1.

II. SCOPE OF WORK

The work under this contribution arrangement includes:

1. The award of a service contract to provide construction management and engineering services during construction of water-works in accordance to the Terms of Reference as described in Schedule II.
2. The award of a contract for the construction of the following:
 - 735 m of Ø 200 mm watermain
 - 1640 m of Ø 150 mm watermain
 - 1 # Ø 200 mm valves
 - 2 # Ø 150 mm valves
 - 18 # Ø 19 mm to Ø 25 mm service connection
 - 12 # Fire hydrant
 - 80 # Individual PRV

III. GENERAL

1. PROJECT MANAGER

The Project Manager for the project, Chief Councillor James Prince will be responsible for ensuring the project is implemented in accordance with the

Technical Terms and Conditions and that the constraints of cost, quality, and time are met. Terms of Reference for the Project Manager are attached as Schedule "III" herein.

2. PROJECT OFFICER

Mr. T.K. Thien has been appointed by the Director of Engineering and Architecture to work in co-operation with the Project Manager and to assist in technical monitoring of the progress of the works. Terms of Reference for the Project Officer are attached as Schedule "IV".

IV. REQUIREMENTS OF THE BAND

1. Retain a firm or firms of Consulting engineers licensed to practice in the Province of British Columbia, to provide the construction management and engineering services during construction of the waterworks in accordance with the Terms of Reference as described in Schedule "II".
2. Have the plans and specifications prepared in a format and style satisfactory to the Department.
3. Award a construction contract for the water-works.
4. Have the originals of the drawings, etc. prepared by the Consultant sent for retention to the Director, Engineering & Architecture.
5. When entering into contracts with the Consultant and contractors to use contract forms satisfactory to the Department.
6. To provide to the Project Officer every opportunity for him to assist and advise the Band in the Successful completion of the project.
7. Upon completion of the project and prior to the release of the final payment, the Band Council shall provide the Department when applicable with a statutory declaration attesting all claims and accounts against the project have been paid.
8. Agree that any funds contributed to the Band under this contribution and not spent on the project in accordance with the scope of work are to be held by the Band, until advised by the Department, on what Capital Project in the community of Necoslie they may be spent.
9. Agree that the Project Officer, in consultation with the Project Manager only may decide on what constitutes a charge against the project.
10. Contribution funds are deposited in an account to be used only for this project. The only cheques to be written on it are to be those for expenses incurred with respect to the project.

V. REQUIREMENTS OF THE DEPARTMENT

1. Expediously review the drawings and reports as required so as to cause no delay.
2. Process valid progress payments expeditiously so as not to detrimentally affect project financing and completion schedules.

VI. RECORDS

1. The Band Council shall maintain a filing system in which is a copy of Minutes of Band Council meetings, all By-laws, and copies of vouchers, bank statements, cancelled cheques and correspondence relating to business of the Band in administering and carrying out the planning and implementation of approved Capital Project. The Department will have the right of access at all reasonable hours to all financial and other records mentioned above.
2. The Band Council shall establish and maintain an acceptable accounting and bookkeeping system that includes a general ledger from which costs can be extracted.
3. The Band shall have approved by the Department acceptable policies and procedures pertaining to financial management internal control.
4. The Band Council will prepare:
 - (a) Band Account Reconciliations upon receipt of bank statements and cancelled cheques.
 - (b) Monthly listings of Accounts Receivable and Accounts Payable balanced to General Ledger control accounts.

VII. METHOD OF PAYMENT

Payment will be based on estimated cash flows plan attached as Schedule "V". An amount equal to the first month's cash required shall be advanced to the Band as the working capital towards this project. Subsequent payment will be released on a regular progress draw basis supported by certified claims.

VIII. TERMINATION

The Project Officer may terminate the project if in his opinion the work being performed:

- endangers the rights, health and safety of any persons,
- constitutes mismanagement of program.

SCHEDULE II
TERMS OF REFERENCE
FOR THE
CONSTRUCTION MANAGEMENT AND ENGINEERING SERVICES
DURING CONSTRUCTION OF WATERWORKS (PHASE II)
AT
NECOSLIE INDIAN RESERVE #1

1. BACKGROUND AND REFERENCE

A portion of the improvement water-works at Necoslie Indian Reserve #1 was completed by contract during the 1983/84 fiscal year.

Capital funds are available under the current 1984/85 fiscal year to complete the improvement water-works to upgrade the existing water system at Necoslie Indian Reserve #1.

2. OBJECTIVE

The objective of this contract is to provide the construction management and engineering services during construction of the water-works at Necoslie Indian Reserve #1.

3. SCOPE OF WORK

The work of this contract is comprised of but necessarily limited to the following:

3.1 Construction Management Service

The construction management service shall include but is not necessarily limited to:

1. Prepare all tender and contract documents necessary to obtain tenders on behalf of the Necoslie Indian Band.
2. Produce and assemble the tender/contract packages.
3. Reply to questions during tendering.
4. Issue addenda if required.
5. Witness the opening of tender(s).
6. Assess the tender(s).
7. Recommend the award of tender to the Necoslie Indian Band.
8. Assist in completing the contract documents.
9. Check and certify the monthly progress claim of the contractor.
10. Prepare for change orders as required and include a detailed description of the necessity for such changes, the quantities involved, the inspector's estimate and the contractor's quote.
11. Liaise between the contractor and the Necoslie Indian Band and to resolve any conflicts which arise between these parties during the construction.

12. Arrange for such non-resident services as concrete casting, and materials testing as directed/or approved by the Project Manager.
13. Arrange and attend regular site meetings.
14. Prepare interim (if required) and final completion certificates.
15. Ensure that all necessary approvals have been obtained.

3.2 Site Engineering Service

The Consultant shall provide site engineering service on a full-time basis until the completion of the works, to ensure that the project works are constructed in accordance with and to the intent of plans and specifications. The site engineering service is comprised of, but not necessarily limited to:

1. Inspect, monitor, measure and test the constructed works.
2. Re-design any works as required by site conditions.
3. Recommend substitution of materials, if required.
4. Resolve any construction problems.
5. Maintain a photographic history of the works which shall include photographs of the site of the works before and after construction, photographs of all sections of the works, photographs of all charges or deviations from the plans and specifications.
6. Provide the following documentation to the Project Manager: The daily activities of the Contractor and weekly summaries which will include the Contractor's progress, equipment and labour employed, problems encountered, solutions to problems and unusual occurrences.

3.3 The Consultant shall compile and submit a completion report. The completion report to be in general accordance with the format outlined in Annex "D". One copy of the report to be sent to the Band and District Engineer and two copies to the Project Officer.

3.4 The Consultant shall prepare and submit as built record drawings in general accordance with requirements outlined in Annex "A". The information required to prepare as built drawings shall be recorded as the work is done and is subject to inspection by the Project Manager and the Project Officer. The completed as built drawings shall be turned over to the Project Officer for storage in the B.C. Region Engineering and Architecture drafting room.

3.5 The Consultant shall compile and complete an Operation and Maintenance manual. These shall be in general accordance with the format outlined in Annex "B".

4. PROJECT MANAGER

For the purpose of this contract, the Project Manager is Mr. James Prince, Chief Councillor, and the Project Officer is Mr. T.K. Thien, Region Engineering and Architecture.

All correspondence should be addressed to:
Necoslie Band Council
Box 1329
Fort St. James, B.C.
V0J 1P0
Attention : Mr. James Prince

With copy to:
Director
Engineering & Architecture Services
Department of Indian and Northern Affairs
P.O. Box 1000
800 Burrard Street
Vancouver, B.C., V6Z 2J3
Attention: Mr. T. K. Thien, P. Eng.

5. The Consultant shall have no authority to direct the contractor to make changes to the plans and specifications without written approval by the Project Manager except as detailed in Item 6, below.

6. EMERGENCY SITUATIONS

If in the case of an emergency either for the Consultant, the owner or the contractor, the Consultant shall be permitted to undertake such action as is deemed necessary by his representative to ensure the immediate safety of the project or persons involved.

7. The construction contract will be between Necoslie Indian Band and a construction contractor selected by public tender.

8. CONSULTANT'S PROPOSAL

The Consultant shall include in his proposal the names and resumes of personnel to be employed in carrying out the work of these Terms of Reference.

The hourly chargeout rate shall be shown for all personnel.

The percentage surcharge, if any, for each kind of anticipated disbursement shall be shown. An estimated cost shall be computed for each item shown under scope of work based upon estimated time which may be foreseen.

9. COST CONTROL

If at any time during the progress of the work the Consultant considers his contract fee will be exceeded, he shall immediately provide the Project Manager with complete details in writing.

AT NO TIME SHALL THE CONTRACT FEE BE EXCEEDED WITHOUT PRIOR WRITTEN
APPROVAL BY THE PROJECT MANAGER.

SCHEDULE "III"

*Released under the Access
to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

**TERMS OF REFERENCE
FOR
PROJECT MANAGER**

The following will be the responsibilities of the Project Manager:

1. To manage the project to full Band and Department satisfaction.
2. To identify areas in which technical assistance is required.
3. To comply with the following guidelines of the Department of Indian Affairs and Northern Development:
 - DRM 10-7/42.5 "Guidelines for the Preparation of Contribution Arrangements with Band Councils".
 - DRM 10-7/37 "Construction Contracting Guidelines for Band Councils".
4. To make prompt payments to Consultant on all invoices in accordance with terms agreed.
5. To co-operate with Project Officer on unforeseen problems, job conditions and all situations requiring negotiation for the mutual interest of an early and satisfactory completion of the work.
6. To keep complete and appropriate records on the Project.
7. To ensure monthly financial reporting to the Project Officer.
8. To assist and participate in the post-evaluation of the project.

SCHEDULE "IV"

TERMS OF REFERENCE
FOR
PROJECT OFFICER

*Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information*

The following will be the responsibilities of the Project Officer:

1. To ensure the satisfactory completion of the project on schedule and within estimated cost.
2. To provide advice to the Band and the Project Manager in all phases of the project.
3. To determine with the Project Manager the technical services to be provided by I.N.A. and arrange for the provision of those services, particularly:
 - Prepare terms of reference for the Band/Project Manager.
 - Monitor or review project work and progress and advise the Band re quality, acceptance, etc.
4. To ensure the Contribution Arrangement provides for:
 - (a) Conformance with appropriate standards, codes, regulations.
5. To evaluate Band performance on this project and report to Responsibility Centre Manager.
6. To participate in project evaluation.

SCHEDULE "V"

*Released under the Access
to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

PROJECTED CASH FLOW PLAN

June 84	-	\$120,000
July 84	-	\$120,000
August 84	-	\$120,000



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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56309

Your file Votre référence

May 8, 1984

Our file Notre référence

E4380-614 (TCC 1)

Manager
Prince George District
British Columbia Region

Attention: Mr. A. Miller

Re: Project # 51109 - Waterworks Upgrading - Necoslie I.R. # 1

The following summarizes the event sequences relative to the above-noted project.

- . April 12, 1984 - My meeting at the Band Office. The Chief Councillor and Band Manager prioritized the areas of the improvement waterworks as follows:
 - Priority 1 - Southend of Fort Street.
 - Priority 2 - West side of Highway 27 including Necoslie Road.
 - Priority 3 - Proposed industrial/commercial subdivision.
 - Priority 4 - New subdivision.
- . April 24, 1984 - Tender by Grizzly Contracting, Ltd., indicated the construction cost for the above-noted works amounted to \$343,868.
- . April 25, 1984 - Meeting at the District Office. It was decided that the watermain construction through the proposed industrial/commercial subdivision would be deleted and Priority #4 watermain to new subdivision would be upgraded to Priority # 3.
- . May 1, 1984 - Revised contract sum negotiated with Grizzly Contracting, Ltd. amounted to \$303,414.

I would confirm that the Band Council has awarded a Contract to Grizzly Contracting, Ltd. to complete the improvement waterwork as agreed in the meeting on April 25, 1984. The cost estimate for the revised scope of work is as follows:

.../ 2

Canada

A0430857_138-000975

- 2 -

Mr. A. Miller
Prince George District

E4380-614 (TCC1)
May 8, 1984

. Revised Contract Amount	= \$303,414
. Reimbursement of Band contribution toward Phase I construction in 1983/84 fiscal year	= 8,000.
. Engineering	= 37,000.
	<hr/>
	\$348,414
Budget available (1984/85)	= 360,000.
FREE BALANCE	= \$ 11,586.
	<hr/>

I am forwarding for your review the documents including Technical Terms and Conditions for the Contribution Arrangement. If you concur with the attached documents, please enter into a Contribution Arrangement with the Band Council at your earliest, so that funds can be released to the Band for the construction of the waterworks.

T.K. Thien

T.K. Thien
Project Officer
Engineering & Architecture
British Columbia Region

c.c. Necoslie Band Council

SCHEDULE I
TECHNICAL TERMS AND CONDITIONS
TO THE CAPITAL CONTRIBUTION ARRANGEMENT
FOR
THE CONSTRUCTION OF WATERWORKS (PHASE II)
ON
NECOSLIE INDIAN RESERVE #1

The following Technical Terms and Conditions for the construction of waterworks on Necoslie Indian Reserve No. 1 are pursuant to the Memorandum of Agreement between her Majesty the Queen in the right of Canada or represented by the Minister of Indian Affairs and Northern Development and the Necoslie Band of Indians dated June 10, 1980 and shall apply to the 1984/85 contribution for the project.

I. PROJECT DEVELOPMENT

In May 1983, Urban Systems Ltd. completed the design of the improvements waterworks for the upgrading of the existing water system at Necoslie Water System.

Due to limitation of District budget, a portion of the designed waterworks was completed by contract during the 1983/84 fiscal year. Capital funds amounting to \$360,000 are available under the current 1984/85 fiscal year to complete the improvement water works for the upgrading of the existing water system at Necoslie Indian Reserve #1.

II. SCOPE OF WORK

The work under this contribution arrangement includes:

1. The award of a service contract to provide construction management and engineering services during construction of water-works in accordance to the Terms of Reference as described in Schedule II.
2. The award of a contract for the construction of the following:
 - 735 m of Ø 200 mm watermain
 - 1640 m of Ø 150 mm watermain
 - 1 # Ø 200 mm valves
 - 2 # Ø 150 mm valves
 - 18 # Ø 19 mm to Ø 25 mm service connection
 - 12 # Fire hydrant
 - 80 # Individual PRV

III. GENERAL

1. PROJECT MANAGER

The Project Manager for the project, Chief Councillor James Prince will be responsible for ensuring the project is implemented in accordance with the

Technical Terms and Conditions and that the constraints of cost, quality, and time are met. Terms of Reference for the Project Manager are attached as Schedule "III" herein.

2. PROJECT OFFICER

Mr. T.K. Thien has been appointed by the Director of Engineering and Architecture to work in co-operation with the Project Manager and to assist in technical monitoring of the progress of the works. Terms of Reference for the Project Officer are attached as Schedule "IV".

IV. REQUIREMENTS OF THE BAND

1. Retain a firm or firms of Consulting engineers licensed to practice in the Province of British Columbia, to provide the construction management and engineering services during construction of the waterworks in accordance with the Terms of Reference as described in Schedule "II".
2. Have the plans and specifications prepared in a format and style satisfactory to the Department.
3. Award a construction contract for the water-works.
4. Have the originals of the drawings, etc. prepared by the Consultant sent for retention to the Director, Engineering & Architecture.
5. When entering into contracts with the Consultant and contractors to use contract forms satisfactory to the Department.
6. To provide to the Project Officer every opportunity for him to assist and advise the Band in the Successful completion of the project.
7. Upon completion of the project and prior to the release of the final payment, the Band Council shall provide the Department when applicable with a statutory declaration attesting all claims and accounts against the project have been paid.
8. Agree that any funds contributed to the Band under this contribution and not spent on the project in accordance with the scope of work are to be held by the Band, until advised by the Department, on what Capital Project in the community of Necoslie they may be spent.
9. Agree that the Project Officer, in consultation with the Project Manager only may decide on what constitutes a charge against the project.
10. Contribution funds are deposited in an account to be used only for this project. The only cheques to be written on it are to be those for expenses incurred with respect to the project.

V. REQUIREMENTS OF THE DEPARTMENT

1. Expediously review the drawings and reports as required so as to cause no delay.
2. Process valid progress payments expeditiously so as not to detrimentally affect project financing and completion schedules.

VI. RECORDS

1. The Band Council shall maintain a filing system in which is a copy of Minutes of Band Council meetings, all By-laws, and copies of vouchers, bank statements, cancelled cheques and correspondence relating to business of the Band in administering and carrying out the planning and implementation of approved Capital Project. The Department will have the right of access at all reasonable hours to all financial and other records mentioned above.
2. The Band Council shall establish and maintain an acceptable accounting and bookkeeping system that includes a general ledger from which costs can be extracted.
3. The Band shall have approved by the Department acceptable policies and procedures pertaining to financial management internal control.
4. The Band Council will prepare:
 - (a) Band Account Reconciliations upon receipt of bank statements and cancelled cheques.
 - (b) Monthly listings of Accounts Receivable and Accounts Payable balanced to General Ledger control accounts.

VII. METHOD OF PAYMENT

Payment will be based on estimated cash flows plan attached as Schedule "V". An amount equal to the first month's cash required shall be advanced to the Band as the working capital towards this project. Subsequent payment will be released on a regular progress draw basis supported by certified claims.

VIII. TERMINATION

The Project Officer may terminate the project if in his opinion the work being performed:

- endangers the rights, health and safety of any persons,
- constitutes mismanagement of program.

CHIEF COUNCILLOR

COUNCILLOR

COUNCILLOR

COUNCILLOR

COUNCILLOR

COUNCILLOR

COUNCILLOR

WITNESS

WITNESS

SCHEDULE "V"

PROJECTED CASH FLOW PLAN

JUNE, 1984	-	\$170,000
JULY, 1984	-	\$130,000
AUGUST, 1984	-	\$ 60,000

SCHEDULE II
TERMS OF REFERENCE
FOR THE
CONSTRUCTION MANAGEMENT AND ENGINEERING SERVICES
DURING CONSTRUCTION OF WATERWORKS (PHASE II)
AT
NECOSLIE INDIAN RESERVE #1

1. BACKGROUND AND REFERENCE

A portion of the improvement water-works at Necoslie Indian Reserve #1 was completed by contract during the 1983/84 fiscal year.

Capital funds are available under the current 1984/85 fiscal year to complete the improvement water-works to upgrade the existing water system at Necoslie Indian Reserve #1.

2. OBJECTIVE

The objective of this contract is to provide the construction management and engineering services during construction of the water-works at Necoslie Indian Reserve #1.

3. SCOPE OF WORK

The work of this contract is comprised of but necessarily limited to the following:

3.1 Construction Management Service

The construction management service shall include but is not necessarily limited to:

1. Prepare all tender and contract documents necessary to obtain tenders on behalf of the Necoslie Indian Band.
2. Produce and assemble the tender/contract packages.
3. Reply to questions during tendering.
4. Issue addenda if required.
5. Witness the opening of tender(s).
6. Assess the tender(s).
7. Recommend the award of tender to the Necoslie Indian Band.
8. Assist in completing the contract documents.
9. Check and certify the monthly progress claim of the contractor.
10. Prepare for change orders as required and include a detailed description of the necessity for such changes, the quantities involved, the inspector's estimate and the contractor's quote.
11. Liaise between the contractor and the Necoslie Indian Band and to resolve any conflicts which arise between these parties during the construction.

12. Arrange for such non-resident services as concrete testing, and materials testing as directed/or approved by the Project Manager.
13. Arrange and attend regular site meetings.
14. Prepare interim (if required) and final completion certificates.
15. Ensure that all necessary approvals have been obtained.

3.2 Site Engineering Service

The Consultant shall provide site engineering service on a full-time basis until the completion of the works, to ensure that the project works are constructed in accordance with and to the intent of plans and specifications. The site engineering service is comprised of, but not necessarily limited to:

1. Inspect, monitor, measure and test the constructed works.
2. Re-design any works as required by site conditions.
3. Recommend substitution of materials, if required.
4. Resolve any construction problems.
5. Maintain a photographic history of the works which shall include photographs of the site of the works before and after construction, photographs of all sections of the works, photographs of all charges or deviations from the plans and specifications.
6. Provide the following documentation to the Project Manager: The daily activities of the Contractor and weekly summaries which will include the Contractor's progress, equipment and labour employed, problems encountered, solutions to problems and unusual occurrences.

3.3 The Consultant shall compile and submit a completion report. The completion report to be in general accordance with the format outlined in Annex "D". One copy of the report to be sent to the Band and District Engineer and two copies to the Project Officer.

3.4 The Consultant shall prepare and submit as built record drawings in general accordance with requirements outlined in Annex "A". The information required to prepare as built drawings shall be recorded as the work is done and is subject to inspection by the Project Manager and the Project Officer. The completed as built drawings shall be turned over to the Project Officer for storage in the B.C. Region Engineering and Architecture drafting room.

3.5 The Consultant shall compile and complete an Operation and Maintenance manual. These shall be in general accordance with the format outlined in Annex "B".

4. PROJECT MANAGER

For the purpose of this contract, the Project Manager is Mr. James Prince, Chief Councillor, and the Project Officer is Mr. T.K. Thien, Region Engineering and Architecture.

All correspondence should be addressed to:
Necoslíe Band Council
Box 1329
Fort St. James, B.C.
V0J 1P0
Attention : Mr. James Prince

With copy to:
Director
Engineering & Architecture Services
Department of Indian and Northern Affairs
P.O. Box 1000
800 Burrard Street
Vancouver, B.C., V6Z 2J3
Attention: Mr. T. K. Thien, P. Eng.

5. The Consultant shall have no authority to direct the contractor to make changes to the plans and specifications without written approval by the Project Manager except as detailed in Item 6, below.

6. EMERGENCY SITUATIONS

If in the case of an emergency either for the Consultant, the owner or the contractor, the Consultant shall be permitted to undertake such action as is deemed necessary by his representative to ensure the immediate safety of the project or persons involved.

7. The construction contract will be between Necoslíe Indian Band and a construction contractor selected by public tender.

8. CONSULTANT'S PROPOSAL

The Consultant shall include in his proposal the names and resumes of personnel to be employed in carrying out the work of these Terms of Reference.

The hourly chargeout rate shall be shown for all personnel.

The percentage surcharge, if any, for each kind of anticipated disbursement shall be shown. An estimated cost shall be computed for each item shown under scope of work based upon estimated time which may be foreseen.

9. COST CONTROL

If at any time during the progress of the work the Consultant considers his contract fee will be exceeded, he shall immediately provide the Project Manager with complete details in writing.

AT NO TIME SHALL THE CONTRACT FEE BE EXCEEDED WITHOUT PRIOR WRITTEN
APPROVAL BY THE PROJECT MANAGER.

SCHEDULE "III"

TERMS OF REFERENCE
FOR
PROJECT MANAGER

The following will be the responsibilities of the Project Manager:

1. To manage the project to full Band and Department satisfaction.
2. To identify areas in which technical assistance is required.
3. To comply with the following guidelines of the Department of Indian Affairs and Northern Development:
 - DRM 10-7/42.5 "Guidelines for the Preparation of Contribution Arrangements with Band Councils".
 - DRM 10-7/37 "Construction Contracting Guidelines for Band Councils".
4. To make prompt payments to Consultant on all invoices in accordance with terms agreed.
5. To co-operate with Project Officer on unforeseen problems, job conditions and all situations requiring negotiation for the mutual interest of an early and satisfactory completion of the work.
6. To keep complete and appropriate records on the Project.
7. To ensure monthly financial reporting to the Project Officer.
8. To assist and participate in the post-evaluation of the project.

SCHEDULE "IV"

TERMS OF REFERENCE
FOR
PROJECT OFFICER

*Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information*

The following will be the responsibilities of the Project Officer:

1. To ensure the satisfactory completion of the project on schedule and within estimated cost.
2. To provide advice to the Band and the Project Manager in all phases of the project.
3. To determine with the Project Manager the technical services to be provided by I.N.A. and arrange for the provision of those services, particularly:
 - Prepare terms of reference for the Band/Project Manager.
 - Monitor or review project work and progress and advise the Band re quality, acceptance, etc.
4. To ensure the Contribution Arrangement provides for:
 - (a) Conformance with appropriate standards, codes, regulations.
5. To evaluate Band performance on this project and report to Responsibility Centre Manager.
6. To participate in project evaluation.

SCHEDULE I
TECHNICAL TERMS AND CONDITIONS
TO THE CAPITAL CONTRIBUTION ARRANGEMENT
FOR
THE CONSTRUCTION OF WATERWORKS (PHASE II)
ON
NECOSLIE INDIAN RESERVE #1

The following Technical Terms and Conditions for the construction of waterworks on Necoslie Indian Reserve No. 1 are pursuant to the Memorandum of Agreement between her Majesty the Queen in the right of Canada or represented by the Minister of Indian Affairs and Northern Development and the Necoslie Band of Indians dated 1984 and shall apply to the 1984/85 contribution for the project.

I. PROJECT DEVELOPMENT

In May 1983, Urban Systems Ltd. completed the design of the improvements waterworks for the upgrading of the existing water system at Necoslie Water System.

Due to limitation of District budget, a portion of the designed waterworks was completed by contract during the 1983/84 fiscal year. Capital funds amounting to \$360,000 are available under the current 1984/85 fiscal year to complete the improvement water works for the upgrading of the existing water system at Necoslie Indian Reserve #1.

II. SCOPE OF WORK

The work under this contribution arrangement includes:

1. The award of a service contract to provide construction management and engineering services during construction of water-works in accordance to the Terms of Reference as described in Schedule II.
2. The award of a contract for the construction of the following:
 - 735 m of Ø 200 mm watermain
 - 1640 m of Ø 150 mm watermain
 - 1 # Ø 200 mm valves
 - 2 # Ø 150 mm valves
 - 18 # Ø 19 mm to Ø 25 mm service connection
 - 12 # Fire hydrant
 - 80 # Individual PRV

III. GENERAL

1. PROJECT MANAGER

The Project Manager for the project, Chief Councillor James Prince will be responsible for ensuring the project is implemented in accordance with the

Technical Terms and Conditions and that the constraints of cost, quality, and time are met. Terms of Reference for the Project Manager are attached as Schedule "III" herein.

2. PROJECT OFFICER

Mr. T.K. Thien has been appointed by the Director of Engineering and Architecture to work in co-operation with the Project Manager and to assist in technical monitoring of the progress of the works. Terms of Reference for the Project Officer are attached as Schedule "IV".

IV. REQUIREMENTS OF THE BAND

1. Retain a firm or firms of Consulting engineers licensed to practice in the Province of British Columbia, to provide the construction management and engineering services during construction of the waterworks in accordance with the Terms of Reference as described in Schedule "II".
2. Have the plans and specifications prepared in a format and style satisfactory to the Department.
3. Award a construction contract for the water-works.
4. Have the originals of the drawings, etc. prepared by the Consultant sent for retention to the Director, Engineering & Architecture.
5. When entering into contracts with the Consultant and contractors to use contract forms satisfactory to the Department.
6. To provide to the Project Officer every opportunity for him to assist and advise the Band in the Successful completion of the project.
7. Upon completion of the project and prior to the release of the final payment, the Band Council shall provide the Department when applicable with a statutory declaration attesting all claims and accounts against the project have been paid.
8. Agree that any funds contributed to the Band under this contribution and not spent on the project in accordance with the scope of work are to be held by the Band, until advised by the Department, on what Capital Project in the community of Necoslie they may be spent.
9. Agree that the Project Officer, in consultation with the Project Manager only may decide on what constitutes a charge against the project.
10. Contribution funds are deposited in an account to be used only for this project. The only cheques to be written on it are to be those for expenses incurred with respect to the project.

V. REQUIREMENTS OF THE DEPARTMENT

1. Expediously review the drawings and reports as required so as to cause no delay.
2. Process valid progress payments expeditiously so as not to detrimentally affect project financing and completion schedules.

VI. RECORDS

1. The Band Council shall maintain a filing system in which is a copy of Minutes of Band Council meetings, all By-laws, and copies of vouchers, bank statements, cancelled cheques and correspondence relating to business of the Band in administering and carrying out the planning and implementation of approved Capital Project. The Department will have the right of access at all reasonable hours to all financial and other records mentioned above.
2. The Band Council shall establish and maintain an acceptable accounting and bookkeeping system that includes a general ledger from which costs can be extracted.
3. The Band shall have approved by the Department acceptable policies and procedures pertaining to financial management internal control.
4. The Band Council will prepare:
 - (a) Band Account Reconciliations upon receipt of bank statements and cancelled cheques.
 - (b) Monthly listings of Accounts Receivable and Accounts Payable balanced to General Ledger control accounts.

VII. METHOD OF PAYMENT

Payment will be based on estimated cash flows plan attached as Schedule "V". An amount equal to the first month's cash required shall be advanced to the Band as the working capital towards this project. Subsequent payment will be released on a regular progress draw basis supported by certified claims.

VIII. TERMINATION

The Project Officer may terminate the project if in his opinion the work being performed:

- endangers the rights, health and safety of any persons,
- constitutes mismanagement of program.

SCHEDULE II
TERMS OF REFERENCE
FOR THE
CONSTRUCTION MANAGEMENT AND ENGINEERING SERVICES
DURING CONSTRUCTION OF WATERWORKS (PHASE II)
AT
NECOSLIE INDIAN RESERVE #1

1. BACKGROUND AND REFERENCE

A portion of the improvement water-works at Necoslie Indian Reserve #1 was completed by contract during the 1983/84 fiscal year.

Capital funds are available under the current 1984/85 fiscal year to complete the improvement water-works to upgrade the existing water system at Necoslie Indian Reserve #1.

2. OBJECTIVE

The objective of this contract is to provide the construction management and engineering services during construction of the water-works at Necoslie Indian Reserve #1.

3. SCOPE OF WORK

The work of this contract is comprised of but necessarily limited to the following:

3.1 Construction Management Service

The construction management service shall include but is not necessarily limited to:

1. Prepare all tender and contract documents necessary to obtain tenders on behalf of the Necoslie Indian Band.
2. Produce and assemble the tender/contract packages.
3. Reply to questions during tendering.
4. Issue addenda if required.
5. Witness the opening of tender(s).
6. Assess the tender(s).
7. Recommend the award of tender to the Necoslie Indian Band.
8. Assist in completing the contract documents.
9. Check and certify the monthly progress claim of the contractor.
10. Prepare for change orders as required and include a detailed description of the necessity for such changes, the quantities involved, the inspector's estimate and the contractor's quote.
11. Liaise between the contractor and the Necoslie Indian Band and to resolve any conflicts which arise between these parties during the construction.

12. Arrange for such non-resident services as concrete testing, and materials testing as directed/or approved by the Project Manager.
13. Arrange and attend regular site meetings.
14. Prepare interim (if required) and final completion certificates.
15. Ensure that all necessary approvals have been obtained.

3.2 Site Engineering Service

The Consultant shall provide site engineering service on a full-time basis until the completion of the works, to ensure that the project works are constructed in accordance with and to the intent of plans and specifications. The site engineering service is comprised of, but not necessarily limited to:

1. Inspect, monitor, measure and test the constructed works.
2. Re-design any works as required by site conditions.
3. Recommend substitution of materials, if required.
4. Resolve any construction problems.
5. Maintain a photographic history of the works which shall include photographs of the site of the works before and after construction, photographs of all sections of the works, photographs of all changes or deviations from the plans and specifications.
6. Provide the following documentation to the Project Manager: The daily activities of the Contractor and weekly summaries which will include the Contractor's progress, equipment and labour employed, problems encountered, solutions to problems and unusual occurrences.

3.3 The Consultant shall compile and submit a completion report. The completion report to be in general accordance with the format outlined in Annex "D". One copy of the report to be sent to the Band and District Engineer and two copies to the Project Officer.

3.4 The Consultant shall prepare and submit as built record drawings in general accordance with requirements outlined in Annex "A". The information required to prepare as built drawings shall be recorded as the work is done and is subject to inspection by the Project Manager and the Project Officer. The completed as built drawings shall be turned over to the Project Officer for storage in the B.C. Region Engineering and Architecture drafting room.

3.5 The Consultant shall compile and complete an Operation and Maintenance manual. These shall be in general accordance with the format outlined in Annex "B".

4. PROJECT MANAGER

For the purpose of this contract, the Project Manager is Mr. James Prince, Chief Councillor, and the Project Officer is Mr. T.K. Thien, Region Engineering and Architecture.

All correspondence should be addressed to:

Necoslie Band Council

Box 1329

Fort St. James, B.C.

V0J 1P0

Attention : Mr. James Prince

With copy to:

Director

Engineering & Architecture Services

Department of Indian and Northern Affairs

P.O. Box 1000

800 Burrard Street

Vancouver, B.C., V6Z 2J3

Attention: Mr. T. K. Thien, P. Eng.

5. The Consultant shall have no authority to direct the contractor to make changes to the plans and specifications without written approval by the Project Manager except as detailed in Item 6, below.

6. EMERGENCY SITUATIONS

If in the case of an emergency either for the Consultant, the owner or the contractor, the Consultant shall be permitted to undertake such action as is deemed necessary by his representative to ensure the immediate safety of the project or persons involved.

7. The construction contract will be between Necoslie Indian Band and a construction contractor selected by public tender.

8. CONSULTANT'S PROPOSAL

The Consultant shall include in his proposal the names and resumes of personnel to be employed in carrying out the work of these Terms of Reference.

The hourly chargeout rate shall be shown for all personnel.

The percentage surcharge, if any, for each kind of anticipated disbursement shall be shown. An estimated cost shall be computed for each item shown under scope of work based upon estimated time which may be foreseen.

9. COST CONTROL

If at any time during the progress of the work the Consultant considers his contract fee will be exceeded, he shall immediately provide the Project Manager with complete details in writing.

AT NO TIME SHALL THE CONTRACT FEE BE EXCEEDED WITHOUT PRIOR WRITTEN
APPROVAL BY THE PROJECT MANAGER.

SCHEDULE "III"

TERMS OF REFERENCE
FOR
PROJECT MANAGER

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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information*

The following will be the responsibilities of the Project Manager:

1. To manage the project to full Band and Department satisfaction.
2. To identify areas in which technical assistance is required.
3. To comply with the following guidelines of the Department of Indian Affairs and Northern Development:
 - DRM 10-7/42.5 "Guidelines for the Preparation of Contribution Arrangements with Band Councils".
 - DRM 10-7/37 "Construction Contracting Guidelines for Band Councils".
4. To make prompt payments to Consultant on all invoices in accordance with terms agreed.
5. To co-operate with Project Officer on unforeseen problems, job conditions and all situations requiring negotiation for the mutual interest of an early and satisfactory completion of the work.
6. To keep complete and appropriate records on the Project.
7. To ensure monthly financial reporting to the Project Officer.
8. To assist and participate in the post-evaluation of the project.

SCHEDULE "IV"

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TERMS OF REFERENCE
FOR
PROJECT OFFICER

The following will be the responsibilities of the Project Officer:

1. To ensure the satisfactory completion of the project on schedule and within estimated cost.
2. To provide advice to the Band and the Project Manager in all phases of the project.
3. To determine with the Project Manager the technical services to be provided by I.N.A. and arrange for the provision of those services, particularly:
 - Prepare terms of reference for the Band/Project Manager.
 - Monitor or review project work and progress and advise the Band re quality, acceptance, etc.
4. To ensure the Contribution Arrangement provides for:
 - (a) Conformance with appropriate standards, codes, regulations.
5. To evaluate Band performance on this project and report to Responsibility Centre Manager.
6. To participate in project evaluation.

SCHEDULE "V"

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PROJECTED CASH FLOW PLAN

June 84	-	\$120,000
July 84	-	\$120,000
August 84	-	\$120,000



RECEIVED MAY 14 1984

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l'information

Your file Votre référence

Our file Notre référence

E4380-614 (TCC 1)

May 8, 1984

Manager
Prince George District
British Columbia Region

58007

11 10 40

Attention: Mr. A. Miller

Re: Project # 51109 - Waterworks Upgrading - Necoslie I.R. # 1

The following summarizes the event sequences relative to the above-noted project.

- . April 12, 1984 - My meeting at the Band Office. The Chief Councillor and Band Manager prioritized the areas of the improvement waterworks as follows:

- Priority 1 - Southend of Fort Street.
- Priority 2 - West side of Highway 27 including Necoslie Road.
- Priority 3 - Proposed industrial/commercial subdivision.
- Priority 4 - New subdivision.

- . April 24, 1984 - Tender by Grizzly Contracting, Ltd., indicated the construction cost for the above-noted works amounted to \$343,868.

- . April 25, 1984 - Meeting at the District Office. It was decided that the watermain construction through the proposed industrial/commercial subdivision would be deleted and Priority #4 watermain to new subdivision would be upgraded to Priority # 3.

- . May 1, 1984 - Revised contract sum negotiated with Grizzly Contracting, Ltd. amounted to \$303,414.

I would confirm that the Band Council has awarded a Contract to Grizzly Contracting, Ltd. to complete the improvement waterwork as agreed in the meeting on April 25, 1984. The cost estimate for the revised scope of work is as follows:

.../ 2

Canada

E4380-614(TCC1)

May 8, 1984

- 2 -

Mr. A. Miller
Prince George District

. Revised Contract Amount	= \$303,414
. Reimbursement of Band contribution toward Phase I construction in 1983/84 fiscal year	= 8,000
. Engineering	= 37,000
	<hr/>
	\$348,414
 Budget available (1984/85)	 = 360,000
FREE BALANCE	= \$ 11,586
	<hr/>

I am forwarding for your review the documents including Technical Terms and Conditions for the Contribution Arrangement. If you concur with the attached documents, please enter into a Contribution Arrangement with the Band Council at your earliest, so that funds can be released to the Band for the construction of the waterworks.

T.K. Thien

T.K. Thien
Project Officer
Engineering & Architecture
British Columbia Region

—> c.c. Necoslie Band Council



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

WEEKLY PROGRESS REPORT

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JOB No. E 659-44

PROJECT NECOSLIE WATER - PHASE II WEEK ENDING MAY 25 1984
LOCATION NECOSLIE I.R. - FT. ST. JAMES COMPLETION DATE JULY 15 1984
OWNER NECOSLIE INDIAN BAND CONTRACTOR GRIZZLY CONTRACTING LTD.
WEATHER MAINLY SUNNY

ENGINEERING; (CLIENT DIRECTIVES, DESIGN CHANGES, TESTS, INSTRUCTIONS, ETC.)

TESTS

- (i) WATERLINE ON HWY 27 WESTSIDE SUCCESSFULLY PRESSURE TESTED
(ii) WATERLINE ON NECOSLIE ROAD SUCCESSFULLY PRESSURE TESTED.

CONTRACTOR; (INCLUDE MEN & EQUIPMENT, WORK PERFORMED, AREAS OF WORK, ETC.)

- ① EQUIPMENT - 235, 225, D-6, 931, GRADER, 966, ITAN, PICKUP
DUMP TRUCK.
② MEN - SUPERVISOR, 1 FOREMAN, 3 PIPELAYERS, 2 OPERATORS.
③ WORK PERFORMED - INSTALLATION OF 200Ø WATERMAIN, HYD.
INSTALLATION, SERVICE INSTALLATION, PRV INSTALLATION, SAND PLACE-
MENT IN ENCASUREMENT PIPE, BEDDING, DISTRIBUTION IN NEW SUBD.
④ AREAS OF WORK - HWY 27 - WESTSIDE, NECOSLIE ROAD, NEW
SUBD.

GENERAL COMMENTS; (DISCUSS PROGRESS, QUALITY OF WORK, DISCUSSIONS, MEETINGS, ETC.)

① PROGRESS

(i) WATERMAIN	- 200Ø	TOTAL WEEKS PRODUCTION =	219.6m
(ii) HYDRANTS		" " "	= 3
(iii) HYDRANT LEAD		" " "	= 11.7m
(iv) 19Ø SERVICE		" " "	= 224.7m
(v) 25Ø SERVICE		" " "	= 73.5m
(vi) CURB STOPS		" " "	= 0

FORCE ACCOUNT; (GIVE DETAIL OF EXTRA WORK AUTHORIZED)

DISTRIBUTION CHIEF JAMES T. PRINCE
T.K. THIEU TRAC (REGION)
A. MILLER TRAC (DIST)
URBAN SYSTEMS

RESIDENT ENGINEER



urban systems ltd.
CONSULTING ENGINEERS & PLANNERS

RECORD OF LEAKAGE - PRESSURE TESTS

ON PRESSURE MAINS

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JOB No.

PROJECT NEOSLIE WATERWORKS - PHASE II UTILITY WATER
OWNER NEOSLIE INDIAN BAND DATE MAY 24 19 84
CONTRACTOR GRIZZLY CONTRACTING LTD.
LOCATION NEOSLIE ROAD
BETWEEN TIE IN TO HWY 27 WEST SIDE AND 2150 NEOSLIE

A. CALCULATIONS

MAINLINE WORKING PRESSURE (AT LOW POINT) _____ kPa.

1.5 TIMES WORKING PRESSURE _____ kPa.

TEST PRESSURE TO NEAREST ALLOWABLE INCREMENT 1035 kPa.NOMINAL LENGTH OF PIPE SECTIONS 61 METRES.

SIZE	TYPE	CLASS	LENGTH	MAIN JOINTS	FITTING & SERVICE JOINTS	TOTAL JOINTS	ALLOW. RATE L = $\frac{HD \cdot T}{43800}$	ALLOWABLE LEAKAGE
200 ϕ	PVC	150	219.6	36	6	42	4.1 L/hr	4.1 L/hr
150 ϕ LEAD	PVC	150	8	—	4	4	2.3 L/hr	2.3 L/hr
								4.4 L/hr

CUMULATIVE ALLOWABLE LEAKAGE 4.4 LITRES / HR.

RESERVOIR 45 GAL DRUM CALIBRATED AT 2.6 $\frac{cm}{mm}$ LITRE.
ALLOWABLE RESERVOIR WATER LEVEL DROP _____ mm / HR.

3. TEST (Min. Duration of Two Hours)

DATE	TIME	RESERVOIR MEASURE	DIFFERENCE	LEAKAGE	COMMENT
MAY 24/84	2:10 PM	13.6 CM	1 CM	2.60 L	Good
	3:10 PM	14.6 CM			

4. ACCEPTANCE

THE AFOREMENTIONED PRESSURE MAIN HAS BEEN TESTED AND FOUND TO CONFORM TO
AWWA STANDARDS.

DATE MAY 24, 19 84

WITNESSED BY

FOR URBAN SYSTEMS LTD.

FOR CONTRACTOR.

A0430857_164-001001

FOR



urban systems ltd.
CONSULTING ENGINEERS & PLANNERS

RECORD OF LEAKAGE - PRESSURE TESTS

ON PRESSURE MAINS

JOB No.

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PROJECT NECOSLIE WATERWORKS - PHASE II UTILITY WATER
OWNER NECOSLIE INDIAN BAND DATE MAY 23, 1984
CONTRACTOR GRIZZLY CONTRACTING LTD.
LOCATION MAY 23 - WEST SIDE
BETWEEN PRINCE STREET AND FORT STREET

A. CALCULATIONS

MAINLINE WORKING PRESSURE (AT LOW POINT) _____ kPa.

1.5 TIMES WORKING PRESSURE _____ kPa.

TEST PRESSURE TO NEAREST ALLOWABLE INCREMENT 1035 kPa.

NOMINAL LENGTH OF PIPE SECTIONS 6.1 METRES.

SIZE	TYPE	CLASS	LENGTH	MAIN JOINTS	FITTING & SERVICE JOINTS	TOTAL JOINTS	ALLOW. RATE L = $\frac{HD^2}{69200}$	ALLOWABLE LEAKAGE
200	PVC	150	510.3	84	8	92	9.1 L/HR	9.1
150	PVC	150	163.4	27	2	29	2.1 L/HR	2.1
150 LEAD PVC		150	7.4	—	4	4	0.3 L/HR	0.3
								11.5

CUMULATIVE ALLOWABLE LEAKAGE 11.5 LITRES / HR.

RESERVOIR 45 GAL DRUM CALIBRATED AT 2.60 $\frac{cm}{mm}$ LITRE
ALLOWABLE RESERVOIR WATER LEVEL DROP 4.4 $\frac{mm}{cm}$ / HR.

B. TEST (Min. Duration of Two Hours)

DATE	TIME	RESERVOIR MEASURE	DIFFERENCE	LEAKAGE	COMMENT
MAY 23	11:00 AM	218.8 cm	3.1 cm	8.1 L	Good
	12:00 AM	24.9 cm			

C. ACCEPTANCE

THE AFOREMENTIONED PRESSURE MAIN HAS BEEN TESTED AND FOUND TO CONFORM TO AWWA STANDARDS.

DATE MAY 23, 1984

WITNESSED BY

FOR URBAN SYSTEMS LTD.

FOR CONTRACTOR.

A0430857_165-001002



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

WEEKLY PROGRESS REPORT

Released under the Access

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l'information

JOB No.

E-659-14

16 23 21

PROJECT NECOSLIE WATER - PARIET WEEK ENDING MAY 11 19 84.
LOCATION NECOSLIE I.R. - FT. ST. JAMES COMPLETION DATE JULY 15 19 84.
OWNER NECOSLIE INDIAN BAND CONTRACTOR GRIZZLY CONTRACTING LTD.
WEATHER UNSETTLED WITH RAIN, SNOW & HAIL SHOWERS 6°C TO 10°C.

ENGINEERING; (CLIENT DIRECTIVES, DESIGN CHANGES, TESTS, INSTRUCTIONS, ETC.)

① TESTS - WATERMAIN ON FORT STREET CHARGED, FLUSHED AND
SUCCESSFULLY PRESSURE TESTED.

CONTRACTOR; (INCLUDE MEN & EQUIPMENT, WORK PERFORMED, AREAS OF WORK, ETC.)

① EQUIPMENT - 275, 225, 966, 06-E, 170N TRUCK, DUMP TRUCK, PICK-UP
TRUCK, 10850

② MEN - SUPERVISOR, FOREMAN, 2 OPERATORS, 3 PIPELAYERS

③ WORK PERFORMED - INSTALLATION OF 1500 WATERMAIN AND
2000 WATERMAIN.

④ - CLEARING ON NEW SUB'D.

⑤ AREAS OF WORK - FORT STREET, HWY 27 WESTSIDE, NEW
SUB'D.

GENERAL COMMENTS; (DISCUSS PROGRESS, QUALITY OF WORK, DISCUSSIONS, MEETINGS, ETC.)

① PROGRESS

(i) WATERMAIN - TOTAL WEEK'S PRODUCTION = 1032.6 METERS

(ii) HYDRANTS - TOTAL WEEK'S PRODUCTION = 3

(iii) H.Y.D. LEADS - TOTAL WEEK'S PRODUCTION = 28.7 METERS

② QUALITY OF WORK

QUALITY OF WORKMANSHIP REMAINS GOOD.

③ DISCUSSIONS & MEETINGS

(i) CONTRACTOR AGREES TO CLEAN-UP AREAS OF PAR3 COMPT WHERE
APPLICABLE.

FORCE ACCOUNT; (GIVE DETAIL OF EXTRA WORK AUTHORIZED)

(ii) CONTRACTOR AGREES TO INSTALL 2" SERVICE LINE TO THE BALL PARK.

(iii) BAND AGREES TO HAVE GRIZZLY CONTRACTING CLEAR FOR WATER-
LINE ON NEW SUB'D.

FORCE ACCOUNT

EXTRA WORK ORDER #1 ISSUED FOR THE INSTALLATION OF A 2"
WATERSERVICE TO THE BALL PARK.

DISTRIBUTION NECOSLIE BAND - CHIEF J.T. PRICE

DIAC VAC. - T.K. THOM

TIME DET. - A. MIND

URBAN SYSTEMS.

DATE MAY 13 19 84.



RESIDENT ENGINEER



urban systems ltd.
CONSULTING ENGINEERS & PLANNERS

RECORD OF LEAKAGE - PRESSURE TESTS

ON PRESSURE MAINS

JOB No. E-634-E

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l'information

PROJECT HESSIE WATERWORKS - PHASE II UTILITY WATERMAIN
OWNER WILSON ROAD DATE MAY 11 1984
CONTRACTOR GRIZZLY CONTRACTING
LOCATION FORT ST.
BETWEEN 1943 CONST. AND 11270

1. CALCULATIONS

MAINLINE WORKING PRESSURE (AT LOW POINT) _____ kPa.

1.5 TIMES WORKING PRESSURE _____ kPa.

TEST PRESSURE TO NEAREST ALLOWABLE INCREMENT 1075 kPa.

NOMINAL LENGTH OF PIPE SECTIONS 0.1 METRES.

SIZE	TYPE	CLASS	LENGTH	MAIN JOINTS	FITTING & SERVICE JOINTS	TOTAL JOINTS	ALLOW. RATE L = $\frac{ND^2}{69200}$	ALLOWABLE LEAKAGE
150	PVC	150	0.570	95	25	120		9.37 L

CUMULATIVE ALLOWABLE LEAKAGE 9.37 LITRES / HR.

RESERVOIR 45 CM DRAIN CALIBRATED AT 2.60 $\frac{cm}{mm}$ LITRE.
ALLOWABLE RESERVOIR WATER LEVEL DROP _____ mm / HR.

2. TEST (Min. Duration of Two Hours)

DATE	TIME	RESERVOIR MEASURE	DIFFERENCE	LEAKAGE	COMMENT
MAY 11	3:10 PM	32.5 cm	2.8 cm	7.25 L	<i>Good</i>
	4:10 PM	29.5 cm			

ACCEPTANCE

THE AFOREMENTIONED PRESSURE MAIN HAS BEEN TESTED AND FOUND TO CONFORM TO AWWA STANDARDS.

DATE MAY 11 1984

WITNESSED BY _____

FOR URBAN SYSTEMS LTD.

FOR CONTRACTOR.

A0430857_167-001004

FOR _____



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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l'information

54827

APR 11 AM 11:31

April 10, 1984

Your file Votre référence

Our file Notre référence

E4380-614(TCC.1)

MANAGER

Prince George District

Re: Project # 51109

Necoslie Waterwork Upgrading

It is my understanding that the District budget for this current fiscal year to complete the above noted project is \$360,000.

A PICD reflecting the current budget is prepared and forwarded to you for signature.

I will be meeting with the Band Council this Thursday, April 12, 1984 to discuss the Scope of Works, the Technical Terms and Conditions relative to the Contribution Arrangement to be entered into for the implementation of this project.

T.R. Thien
Project Officer
Engineering & Architecture
British Columbia Region

Canada

A0430857_168-001005

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
2L 4X3

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l'information

SAMPLING DATE: January 9, 1984

SAMPLE SOURCE(S) Jim Tylee kitchen tap, Necoslie
I.R. drinking water.

RESULTS: SATISFACTORY ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

51885 FEB 17 P1:56

RECOMMENDATIONS:


- ☐ 1. Boil All Drinking Water
- ☐ 2. Disinfect Well As Per
Enclosed Instructions:

- ☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675. Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine


Zone Director
North East Zone



January 25, 1984

Our File: D659-4

Necoslie Indian BMnd
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Mr. L. Thomas

Dear Sir:

Re: Necoslie Water Distribution System Improvements

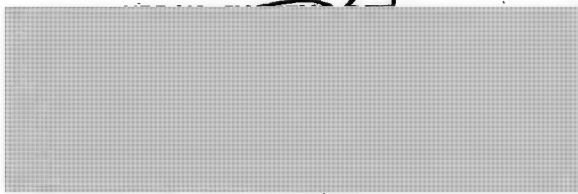
Attached please find one (1) copy of the Construction Completion report and two (2) copies of the Operations and Maintenance Manual (which also includes As-Built Drawings) for the above referenced project.

We have also forwarded copies of this documentation to Mr. T.K. Thien and Mr. A. Miller of INAC.

Completion of these reports and manuals concludes our assignment with respect to providing contract management and engineering services on the 1983 Necoslie Water Distribution System Improvements project.

We look forward to working with you and Band Council on the next phase of the project to be undertaken later this year.

Yours truly,



GS/ms

enclosures

c.c. - T.K. Thien - 2 OEM

- 2 Completion reports

- A. Miller - 1 OEM

- 1 Completion report

NECOSLIE INDIAN BAND

1984 WATER DISTRIBUTION SYSTEM IMPROVEMENT PROJECT

Meeting on April 25, 1984

55915

MAY -3 AIO :24

Attending:

Mark Barfoot	Councillor
Leonard Thomas	Band Manager
James T. Prince	Chief
Jeff Goldie	INAC - District
Alex Miller	INAC - District
Gary Stickel	Urban Systems Ltd.

The watermain construction priority areas outlined during the Meeting on April 12, 1984 in Necoslie with the Band, T.K. Thien of INAC (Regional) and G. Stickel of Urban Systems was discussed at length. INAC (District) took exception to the installation of a watermain through the proposed industrial/commercial subdivision (priority Area No. 3) as this type of development is not covered by INAC capital work funding programs. After considerable discussion it was resolved:

That the watermain construction priority areas would be revised as follows:

Priority Area No. 1 - South end of Fort Street

Priority Area No. 2 - West side of Highway 27 including Necoslie Road

Priority Area No. 3 - New subdivision

Watermain construction through the proposed industrial/commercial subdivision is deleted.

Any surplus monies realized after construction of the above referenced priority areas may be retained by the Band providing INAC (District) does not have need of it for emergency purposes elsewhere. Should surplus monies remain with the Band they may be expended only with the INAC's (District) knowledge, consultation and approval.





Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et inuit

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

54718

Chronological No. / Numéro consécutif
to Information Act
Communiqué en vertu de la
File Reference / No. de réf. du dossier
E4215-4-614; E4380-614
APR 10 1984

NOTE: The words "From our Band Funds" "Capital" or "Revenue", whichever is the case, must appear in all resolutions requesting expenditures from Band Funds.
NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes.

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE INDIAN BAND	Current Capital Balance Solde de capital	\$ _____
AGENCY DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$ _____
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$ _____
PLACE NOM DE L'ENDROIT	FORT SAINT JAMES	Committed - Engagé	\$ _____
DATE	28 03 AD 19 84 DAY - JOUR MONTH - MOIS YEAR - ANNÉE		

DO HEREBY RESOLVE:

DECIDE, PAR LES PRESENTES:

AND request an additional _____ cost of project #51109,
Necoslie Water System Upgrading. The additional funds are
required during the 1983-84 fiscal year, to pay for an increase
in the project scope.

Revised scope and technical terms and conditions are attached
as Appendix 'A', cash flow is attached as Appendix 'B'.

We agree to administer these funds in accordance with our
Local Service Agreement dated, June 10, 1980.

This agreement will take effect on the date signed, and will
expire on June 30, 1984.

A quorum for this Bande
Pour cette bande le quorum est

consists of
fixé à FIVE (5)
Council Members
Membres du Conseil

James P. [Signature]
(Chief - Chef)
Ed [Signature]
(Councillor - conseiller)
Harold [Signature]
(Councillor - conseiller)
Paul [Signature]
(Councillor - conseiller)
[Signature]
(Councillor - conseiller)
[Signature]
(Councillor - conseiller)
[Signature]
(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE					
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens	5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A. Capital \$	B. Revenue - Revenu \$			
6. Recommended - Recommandable			Approved - Approuvable		
Date Dist. Supt of Band Operations Recommending Officer - Rec			Date District Manager Approving Officer - Approuvé par		

A0430857_172-001009

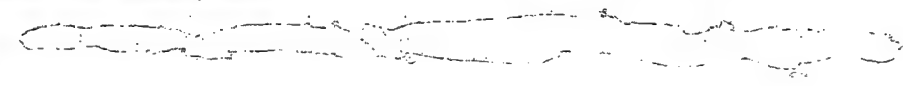
PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

Communiqué en vertu de la

Loi sur l'accès
à l'information

SECTION 1	Program Programme	2	Region - Région British Columbia	District Prince George	RCM - GCR 9085	CCM GCC 319
	Reserve - Réserve Nautley	Band - Bande Fraser Lake	Project Number - N° de projet 51458	S.C.R. - R.C.S. Y-A M D-J	Band No. - N° de bande 00612	
SECTION 2	Project Name - Titre du projet Nautley Well					
	Project Scope - Portée du projet Same					
SECTION 3	Project Substantiation - Justification du projet Same					
	Special Factors - Facteurs particuliers Project implementation delayed indefinite. Rehabilitation of existing well is to be undertaken and the will yield monitored during 1984/85					
SECTION 4	Re: Project Change (\$'000) Objet: Modification		Present Approval - Déjà approuvés 14.0		Increase Requested - Augmentation demandée (14.0)	
	Expenditure to date - Fonds dépensés à ce jour					
SECTION 5	Project Cost/Funding Coût/Financement du projet			Expenditure Plan Plan des dépenses		
	Estimate Class Cat. de prévisions	Constant Constants	Year Année	P.V. A.P.	DIAND MAIN	Band & Other Bande & Autres
SECTION 6	Date	Current Courants	83/84		\$'000	\$'000
	Funding Source Source de fonds	Capital \$'000 Immobilisations	Annual O & M Annuaux E & F	P.Y. - A.P.		
SECTION 7	DIAND - MAIN					
	Band - Bande					
SECTION 8	Total		Total			
	Project Recommendation/Project Change Approval Recommandation du projet/Approbation de modification					
SECTION 9	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.		Date	Regional Director-General - Directeur général régional		Date
	Program Manager - Gestionnaire du programme		Date	Director, Capital Mgt. (H.Q.) - Directeur, Gestion des invest. (A.C.)		Date
SECTION 10	Regional Director of E. & A. - Directeur régional de G. et A.		Date	Assistant Deputy Minister - Sous-ministre adjoint		Date
	Project Mgr./Gestionnaire chargé de projet		Date			
SECTION 11	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan.					
	Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.					
SECTION 12	DIRECTOR OF FINANCE - Directeur des services financiers					
	Date					
SECTION 13	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to PD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself.					
	AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DEPENSES: En vertu de DF-5, le gestionnaire de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses.					
SECTION 14	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.		2A0430857_173-001010		20.3.89	
	Manager - Gestionnaire de projet				Date	

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

PARTIE 1	Program - Programme 2	Region - Région BRITISH COLUMBIA	District PRINCE GEORGE	RCM - GCR 9 8 5 3 9	CCM GCC 0 0 6 1 2																																										
	Reserve - Réserve NAUTLEY		Band - Bande FRASER LAKE																																												
	Project Name - Titre du projet NAUTLEY WELL		Project Number - N° de projet 51458	B.C.R. - R.C.B. Y - A M D - J																																											
PARTIE 2	Present Use of Form / Utilisation actuelle de la formule <input checked="" type="checkbox"/> Project Identification / Identification du projet <input type="checkbox"/> Project Change / Modification de projet <input type="checkbox"/> Annual Implementation App. / App. annuelle d'exécution																																														
	Administered By / Administré par <input type="checkbox"/> Band / Bande <input checked="" type="checkbox"/> District <input type="checkbox"/> Region / Région																																														
PARTIE 3	Project Scope - Portée du projet To drill 6" diameter deep well at Nautley I/R for community water system.																																														
	Project Substantiation - Justification du projet Present well at Nautley I/R does not have enough yield and Band has to draw river water for make-up. Service Code: 6071 No.: S243 COMMITMENT CERTIFICATE No. 07019																																														
PARTIE 4	Special Factors - Facteurs particuliers 																																														
	Re: Project Change (\$'000) / Objet: Modification Present Approval - Déjà approuvé Increase Requested - Augmentation demandée Expenditure to date - Fonds dépensés à ce jour																																														
PARTIE 5	Project Cost/Funding / Coût/Financement du projet Estimate Class / Cat. de provisions <input type="checkbox"/> Constant / Constants <input type="checkbox"/> Current / Courants		Expenditure Plan / Plan des dépenses <table border="1"> <thead> <tr> <th>Year / Année</th> <th>P.V. / A.P.</th> <th>DIAND MAIN / \$'000</th> <th>Band & Other / Bande & Autres / \$'000</th> <th>Phases / Étapes</th> <th>Phase Codes / Codes des étapes</th> </tr> </thead> <tbody> <tr> <td>83-84</td> <td>10</td> <td>14.0</td> <td></td> <td>4</td> <td>1 Identification</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2 Planning / Planification</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3 Design / Conception</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4 Construction</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>5 Evaluation</td> </tr> <tr> <td>Total</td> <td></td> <td>14.0</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Year / Année	P.V. / A.P.	DIAND MAIN / \$'000	Band & Other / Bande & Autres / \$'000	Phases / Étapes	Phase Codes / Codes des étapes	83-84	10	14.0		4	1 Identification						2 Planning / Planification						3 Design / Conception						4 Construction						5 Evaluation	Total		14.0			
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	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself. AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES: En vertu de DF-5, la gestionnaire de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses. Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp. Date: 20.2.84																																														

CERTIFICATE
COMMITMENT



February 7, 1984

Our File: D659-4

51276 FEB -8 410:24

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Mr. Leonard Thomas
Band Manager

Dear Sir:

Re: 1983 Necoslie Water Distribution System Improvements

At the request of Mr. T.K. Thien, P.Eng. we have prepared 50% reduced scale as built drawings for the work constructed under the 1983 Necoslie water distribution system improvement project.

Attached please find two (2) sets of reduced scale drawings for your reference and inclusion in your copies of the O & M Manuals. We have also forwarded one set each of these drawings to Mr. Thien and Mr. Alex Miller of INAC.

Yours truly,

UDRAN SYSTEMS LTD

G. Stickel, C.E.T.

GS/ms

c.c. T.K. Thien, P. Eng. (c/w enclosure)

~~A. Miller, P. Eng. (c/w enclosure)~~

Necoslie Indian Band

Box 1329
Fort St. James
Phone: 996-8228
or 996-7561

December 07, 1983

Department of Indian Affairs
and Northern Development,
209 - 280 Victoria Street
PRINCE GEORGE, B.C.
V2L 4X3

ATTENTION: J. FLEURY JR.

Dear Mr. Fleury:

RE: Necoslie Water System

Enclosed as a reminder, a copy of my letter to you
of October 14, 1983.

The original phase I budget was two hundred and forty
seven thousand eight hundred and seventy-four (\$247,874.00)
dollars which includes the engineering fees. We received
an additional fifty thousand (\$50,000.00) dollars for
Charles Street extension. With the extension the new total
is two hundred and ninety-seven thousand, eight hundred
and seventy-four (\$297,874.00) dollars.

To date, we have received from the Department two
hundred and ninety-seven thousand (\$297,000.00) dollars.
With the additional extension down Fort Street of approx-
imately four hundred (400) metres. The new total is just
over three hundred and five thousand (\$305,000.00) dollars.

Should you anticipate any surplus in the District
Capital Budget before March, we want to recover the remain-
ing eight thousand, eight hundred and seventy-four
(\$8,874.00) dollars.

Should you have any questions, do not hesitate to
call.

Yours truly,

Sam Moise

Sam Moise,
Chief and Project Manager,
for Necoslie Band.

Noted
Jeff 8/12/83

c.c. Gary Stickel
T.K. Thien

A0430857_177-001014

VIA DEX

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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information*

Prince George District,
Prince George, B.C.,
V2L 4X3,

Director,
Finance & Administration,
British Columbia Region.

November 21st, 1983,

E4380-614

Necoslie Waterworks,
Letter of Amendment - \$50,000.

We are requesting that the above amount be wired to the Band's account. The reasons are as follows:

- 1) An increase in the scope of the work was agreed to by the Department in October near the end of the construction of Phase I; this was done to cut costs on additional work by keeping the contractor on site and saving mobilization costs.
- 2) The above resulted in a letter of amendment for the increase being received in early November.
- 3) The Band's contract with the supplier requires a progress payment on November 21st, otherwise the contractor is entitled to bill for interest.

We hope that our requests for wiring funds will soon diminish; since the construction season is almost over.

In the meantime, your cooperation is appreciated.

JCG:kgb.

JIM FLEURY, JR.,
DISTRICT MANAGER.

Necoslie Indian Band

Box 1329
Fort St. James
Phone: 996-8228
or 996-7561

October 14, 1983

Department of Indian Affairs
and Northern Development
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

ATTENTION: JIM FLEURY JR.

Dear Mr. Fleury:

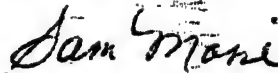
RE: Surplus and Band Funds

This is to confirm our telephone conversation of October 7, in regards to the anticipated surplus of twelve thousand dollars (\$12,000.00) of Phase I of Necoslie Water System Upgrading.

As agreed upon between T.K. Thien, yourself and I that the Necoslie can spend eight thousand (\$8,000.00) dollars of Band Funds to bring the total to twenty thousand (\$20,000.00) dollars. This money will be used for extension along Fort Street.

We need a letter from your office to confirm our verbal agreement of using Band Funds which we can recover from Phase II of Water System Upgrading slated for 83-84 capital allocation.

Yours sincerely,



Sam Moise,
Chief and Project Manager,
for Necoslie Band.

SM:lb

cc: Gary Stickel
T.K. Thien

Communiqué en vertu de la
Loi sur l'accès à
l'information
#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

~~November 21st, 1983~~

Necoslie Band
P.O. Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief & Council

E4380-614

RE: BAND COUNCIL RESOLUTION(S)

This is to acknowledge receipt of your Band Council Resolution dated
November 04th, 1983 concerning the following:

\$8,931 - To cover the costs associated with Yesterday's
Voice Project

** This B.C.R. has been sent to Region for approval on
November 16th, 1983

This Resolution has been allotted number #985/614-27 (83-84)

This Resolution is now being referred to the appropriate Program
Manager for processing. Your Band will be advised on whether or
not it has been approved.

Yours truly,

JIM FLEURY
DISTRICT MANAGER
PRINCE GEORGE DISTRICT

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

October 14th, 1983

M. HOLTHUYSEN
Head/Technical Administration
Engineering & Architecture
British Columbia Region

E4380-614 (TCC.1)

E4380-614

Re: Capital Project #51109 - Necoslie Band
Waterworks Upgrading P.I.C.D.

Please find attached a copy of the abovenoted P.I.C.D. for your
records. We have retained the Original P.I.C.D. for our records.

If you have any questions regarding the abovementioned please
don't hesitate to contact me. Thanks.

GERI DERRICK
BAND OPERATIONS CLERK
PRINCE GEORGE DISTRICT

Att.

c.c. Project File

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

Released under the Access

Information Act

Communiqué en vertu de la

SECTION 1	Program Programme	2	Region - Région	District Prince George	Loi sur l'Accès à l'information	RCM - GCR 9 8 5	CCM GCC 8 1 9			
	Reserve - Réserve	Necoslie I.R. #1		Band - Bande	Necoslie		Band No. - N° de bande			
	Project Name - Titre du projet	Water-Works Upgrading		Project Number - N° de projet	B.C.R. - R.C.B.	Y - A	M - D - J			
	Present Use of Form Utilisation actuelle de la formule	<input type="checkbox"/> Project Identification Identification du projet	<input checked="" type="checkbox"/> Project Change Modification de projet	<input type="checkbox"/> Annual Implementation App. App. annuelle d'exécution						
SECTION 2	Administered By Administré par	<input checked="" type="checkbox"/> Band Bande	<input type="checkbox"/> District	<input type="checkbox"/> Region Région						
	Project Scope - Portée du projet Design and construction of improvement of water-works to upgrade the existing water system at Necoslie I.R. #1. - See attached Capital Project Submission for detailed project scope.									
SECTION 3	Project Substantiation - Justification du projet See attached Capital Project Submission.									
	Special Factors - Facteurs particuliers 1. Final design of water-works is completed, and ready for tender. 2. Construction to be phased over two fiscal years commencing 1983/84. 3. Tenders for portion of the water-works closed on July 28/83, and the low bid is \$210,825. 4. Revision in Expenditures Plan only.									
SECTION 4	Re: Project Change Objet: Modification	(\$'000)	Present Approval - Déjà approuvés	Increase Requested - Augmentation demandée	Expenditure to date - Fonds dépensés à ce jour					
		650		(0)						
SECTION 5	Project Cost/Funding Coût/Financement du projet		Expenditure Plan Plan des dépenses							
	Estimate Class Cat. de prévisions	A	Constant Constants		Year Année	P.V. A.P.	DIAND MAIN	Band & Other Bande & Autres	Phases Étapes	Phase Codes Codes des étapes
	Date	Sept. 20, 1983	Current Courants	<input checked="" type="checkbox"/>	1982/83	15	25		3	1 Identification
	Funding Source Source de fonds	Capital \$'000 Immobilisations	Annual O & M Annuaux E & E		1983/84	15	297		4	2 Planning Planification
	DIAND - MAIN	650	\$'000 P.Y. - A.P.		1984/85	15	328		4 & 5	3 Design Conception
	Band - Bande									4 Construction
										5 Evaluation
	Total	650	3		Total		650			
	Project Recommendation/Project Change Approval Recommandation du projet/Approbation de modification									
	SECTION 6	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.	Date	2/10/83	Regional Director General - Directeur général régional	Date	22/9/83			
Program Manager - Gestionnaire du programme		Date		Director, Capital Mgt. (H.Q.) - Directeur, Gestion des invest. (A.C.)	Date					
Regional Director of E. & A. - Directeur régional de G. et A.		Date		Assistant Deputy Minister - Sous-ministre adjoint	Date					
Project Mgr./Officer - Gestionnaire/Chargé de projet		Date	83/09/20							
SECTION 7	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan. Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.									
	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself. AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES: En vertu de DF-5, la gestionnaire de projet soussignée est autorisée à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses.									
Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.		A0430857_182-001019		Project Manager - Gestionnaire de projet		Date	22/9/83			

Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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l'information

44548

SEP 29 10 24

Vancouver, B. C.
V7Y 1C1

September 26, 1983

Manager
Prince George District

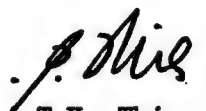
Your file Votre référence

Our file Notre référence E4380-614 (TCC.1)

Re: Project 51109.
Waterworks Upgrading - Necoslie I.R. #1

Thank you for your timely response in obtaining the additional \$50,000 for the above noted project. The additional funds will be used to install the watermain along Charles Street.

I trust this will make Chief Councillor Sam Moise happy for the time being. The revised PICD which has been signed by all Regional Personnel is returned herewith for your signature and that of your District Director of Finance in Section 7.


T.K. Thien
Project Officer

Encl.

cc: Project file.

Canada

A0430857_183-001020

WATER TEST REPORT (BACTERIOLOGICAL)

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

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to Information Act
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l'information*

SAMPLING DATE: September 26, 1983.

SAMPLE SOURCE(S) drinking water -Hydrant at
Fort St. and 2nd Ave.
Necoslie reserve Ft.St.Jam

RESULTS: **SATISFACTORY** ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

☐ 1. Boil All Drinking Water

☐ 2. Disinfect Well As Per
Enclosed Instructions:

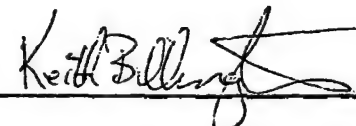
☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675.Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine

45065 OCT 12 P1:10



**Zone Director
North East Zone**

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information

SAMPLING DATE: September 26, 1983.

SAMPLE SOURCE(S) drinking water-1st hydrant
North of Prince St. on Hwy
27 West access road -
Ft. St. James.

RESULTS: SATISFACTORY ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

☐ 1. Boil All Drinking Water

☐ 2. Disinfect Well As Per
Enclosed Instructions:

☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675. Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine


Zone Director
North East Zone

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

Released under the Access
to Information Act
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Loi sur l'accès à
l'information

SAMPLING DATE: September 26, 1983.

SAMPLE SOURCE(S) drinking water-hydrant at
Fort & Prince St. Necoslie
reserve-Ft. St. James.

RESULTS: SATISFACTORY ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

☐ 1. Boil All Drinking Water

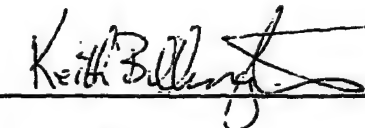
☐ 2. Disinfect Well As Per
Enclosed Instructions:

☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675. Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Department of Indian Affairs.



Zone Director
North East Zone

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

Released under the Access
to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

SAMPLING DATE: September 26, 1983.

drinking water-1st hydrant
SAMPLE SOURCE(S) on Fort St. South of Kwah
Rd. - Necoslie Rd.
Ft. St James

RESULTS: SATISFACTORY ☒

UNSATISFACTORY ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

RECOMMENDATIONS:

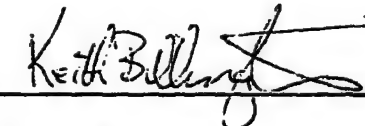
- ☐ 1. Boil All Drinking Water
- ☐ 2. Disinfect Well As Per
Enclosed Instructions:

- ☐ 3. Contact The Environmental Health
Officer As Soon As Possible At
562-6675. Prince George.

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine.



Zone Director
North East Zone

WATER TEST REPORT (BACTERIOLOGICAL)

TO: Department of Indian Affairs
209-280 Victoria St.
Prince George, B.C.
V2L 4X3

*Released under the Access
to Information Act*

*Communiqué en vertu de la
Loi sur l'accès à
l'information*

SAMPLING DATE: September 26, 1983.

SAMPLE SOURCE(S) drinking water-Hydrant at
Fort St. and 2nd Avenue
Necoslie reserve-Ft St Jam

RESULTS: **SATISFACTORY** ☒ **UNSATISFACTORY** ☐

IF RESULTS ARE UNSATISFACTORY, Please follow the recommendations below that are marked with an "X".

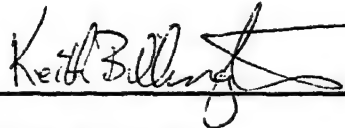
RECOMMENDATIONS:

- | | |
|--|--|
| <input type="checkbox"/> 1. Boil All Drinking Water | <input type="checkbox"/> 3. Contact The Environmental Health Officer As Soon As Possible At 562-6675. Prince George. |
| <input type="checkbox"/> 2. Disinfect Well As Per Enclosed Instructions: | |

REMARKS

c.c. Chief
Sam Moise

c.c. Helen Antoine



Zone Director
North East Zone

USL urban systems ltd.
consulting planners and engineers

October 3, 1983

Our File: D659-4

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief Sam Moise

Dear Sir:

Re: Water Distribution System Upgrading

Attached please find Progress Estimate No. 2 in the amount of \$169,535.35 for work completed by Grizzly Contracting Co. Ltd. on the above mentioned project during the month of September. A 15% holdback has been deducted from the total value of work completed leaving \$105,587.30 now due and payable to the Contractor.

Payment should be made directly to the Contractor on or before the 20th of this month as outlined in Article 3, Page CA-3 of the Contract Agreement section of the Contract Documents.

Upon review of this progress estimate should you have any questions, please do not hesitate to call.

Yours truly,

URBAN SYSTEMS LTD.

Gary Stickel, C.E.T.

GS/ms

enclosure

c.c. - T.K. Thien, DINA

- [redacted] USL

- [redacted] Grizzly

- [redacted] DINA

9/4/83
APW
9P
6/10/83



s.19(1)

Urban systems Ltd.

CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

Released under the Access to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'informationJOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
 LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE September 30 19 83
 OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
 CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 1 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
.0 WATER DISTRIBUTION SYSTEM							
.1 PVC CL 150 Water							
1.1.1 200mm diameter	m	569	385	184	65 00	11,960 00	36,985 00
1.1.2 150mm diameter	m	1018	170	848	51 00	43,284 00	51,918 00
.2 Connection to Fort St. James system	LS					Deleted	Deleted
.3 Reconnection of Services							
1.3.1 19mm long services	m	116.5	-	116.5	50 00	5,825 00	5,825 00
1.3.2 19mm short services	ea	10	-	10	300 00	3,000 00	3,000 00
.4 Fire Hydrant Assemblies							
1.4.1 Fire Hydrants		11	-	11	1,300 00	14,300 00	14,300 00
1.4.2 Main Connections							
a) Ø200 main	ea	2	2		900 00		1,800 00
b) Ø150 main	ea	6	-	6	800 00	4,800 00	4,800 00
1.4.3 Connection to existing main	ea	3	-	3	2,000 00	6,000 00	6,000 00
1.4.4 Fire Hydrant Leads	m	22.5	-	22.5	50 00	1,125 00	1,125 00
TOTAL							

REMARKS

Payment Item 1.1.1 and 1.1.2 - actual quantity reduced by 5% to cover incomplete cleanup.

RETENTION _____ %

BALANCE

PREVIOUS BALANCE

AMOUNT DUE



PROJECT ENGINEER

RESIDENT INSPECTOR

A0430857_190-001027


urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

Released under the Access to Information Act
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 JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
 LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE September 30 19 83
 OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
 CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 2 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
.5 Fitting and Valve Combinations							
1.5.1 Kwah Road/ Highway 29	LS	100%	90%	10%	1,500 00	150 00	1,500 00
1.5.2 Charles Street/ Highway 29	LS	100%	100%	-	1,200 00		1,200 00
1.5.3 Prince Street/ Highway 29	LS	100%	90%	10%	2,700 00	270 00	2,700 00
1.5.4 Prince Street/ Highway 29	LS	100%	100%	-	1,300 00		1,300 00
1.5.5 Charles Street/ Prince Street	LS	100%	-	100%	1,200 00	1,200 00	1,200 00
1.5.6 Fort Street/ Prince Street	LS	100%	-	100%	1,600 00	1,600 00	1,600 00
1.5.7 Kwah Road/ Fort Street	LS	100%	-	100%	700 00	700 00	700 00
1.5.8 Kwah Road/near Fort Street	LS	100%	-	100%	1,300 00	1,300 00	1,300 00
.6 Connections to Existing Reserve Mains							
1.6.1 Prince Street/ Highway 29	LS				1,600 00		
1.6.2 Highway 29 (east side)	LS	100%	100%	-	600 00		600 00
1.6.3 Prince Street/ Charles Street	LS				900 00		
TOTAL							

REMARKS

RETENTION _____ %
 BALANCE
 PREVIOUS BALANCE
 AMOUNT DUE



PROJECT ENGINEER

RESIDENT INSPECTOR


Urban systems Ltd.

CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

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Communiqué en vertu de la

Loi sur l'Accès à

l'information

 JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
 LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE September 30 19 83
 OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
 CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 3 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.6.4 Prince Street/ Fort Street	LS				900 00		
.7 Terminate Existing Mains							
1.7.1 Highway 29 (east) /Kwah Road	LS				600 00		
1.7.2 Kwah Road/ 2nd Avenue	LS				600 00		
.8 Package PRV Station							
1.8.1 Supply	LS				13,594 35	13,594 35	13,594 35
1.8.2 Site Preparation	LS				900 00		
1.8.3 Installation	LS				2,000 00		
.9 Highway Crossing							
1.9.1 Prince Street Intersection	m	15	-	15	200 00	3,000 00	3,000 00
.10 Imported Sand Bedding	m	1697.5	735	962.5	4 00	3,850 00	6,790 00
.11 Road Repair, Restoration and Clean Up							
1.11.1 Highway Crossing	LS	100%	-	100%	1,500 00	1,500 00	1,500 00
1.11.2 Kwah Road	LS				1,000 00		
1.11.3 Reserve Roads	LS				2,100 00		
1.11.4 Restoration and Cleanup	LS				1,000 00		
TOTAL							

REMARKS

Payment Item 1.8.1 - reduced by \$750 to cover
 start up cost by supplier.

RETENTION _____ %

BALANCE

PREVIOUS BALANCE

AMOUNT DUE



PROJECT ENGINEER

RESIDENT INSPECTOR

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE September 30, 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 1983
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 4 OF 4

[illegible]

REMARKS

Provisional Contract Item #1 - Extra paid at Contract unit rate for other terminations in Contract. The main on Kwah Road was not known to be in service.

P.C. Item #2 - Extra paid to remove and dispose of native wet soils encountered in the Highway 27 and Kwah Road crossing excavations and importing pit run gravel from the Band pit for backfill.

P.C. Item #3 - Lump sum extra negotiated with the Contractor to cover additional costs due to conflicts with existing watermain and services.

P.C. Item #4 - Extra negotiated with Contractor to install new curb stops on existing services.

RETENTION 15 %
BALANCE
PREVIOUS BALANCE
AMOUNT DUE

25,430	30
144,105	05
38,517	75
105,587	30



PROJECT ENGINEER

RESIDENT INSPECTOR

P.O. Box 1000
800 Burrard Street
Vancouver, B. C.
V6Z 2J3

Mr. Sam Moise
Chief Councillor
Necoslle Band
Box 1329
Fort St. James, B. C.
VOJ 1P0

45179

October 11, 1983
OCT 14 11 51

Your file Votre référence

Our file Notre référence

E4380-614 (TCC.1)

Dear Chief Councillor:

Re: Project 51109
Necoslle Water-Works Upgrading

The following is my understanding of my recent discussion with you concerning the above noted project:

- . There is a saving of \$12,000 from the current approval budget of \$297,000 in the Contribution Arrangement.
- . The Band Council would like to further extend the scope of work in the amount of \$20,000 to include the water-main and services along Fort Street. (Works will be in accordance to the Design prepared by Urban Systems Ltd).
- . The shortfall of \$8,000 to complete the additional work will be financed initially by Band's funds on the agreement that the District will reimburse the Band at a later date.

I wish to confirm that I support your funding proposal to complete the additional work.

I have discussed your proposal with the District Manager, who concurs with my recommendation. It is my understanding that the District will reimburse the Band the \$8,000 either from any available surplus 1983/84 Capital funds or from the 1984/85 Capital funds.

Yours truly,

T.K. Thien

T.K. Thien
Project Officer

cc: (1) Project file
(2) Prince George District
Attention: Mr. J. Fleury.

Canada

USL urban systems ltd.
consulting planners and engineers

OCT -3 P3:38

October 3, 1983

Our File: D659-4

Pass on to plus 05

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Chief Sam Moise

Dear Sir:

Re: Water Distribution System Upgrading

Attached please find Progress Estimate No. 2 in the amount of \$165,084.65 for work completed by Grizzly Contracting Co. Ltd. on the above mentioned project during the month of September. A 15% holdback has been deducted from the total value of work completed leaving \$101,804.20 now due and payable to the Contractor.

Payment should be made directly to the Contractor on or before the 20th of this month as outlined in Article 3, Page CA-3 of the Contract Agreement section of the Contract Documents.

Upon review of this progress estimate should you have any questions, please do not hesitate to call.

Yours truly,

URBAN SYSTEMS LTD.

Gary Stickel, C.E.T.
GS/ms
enclosure
c.c. - T.K. Thien, DINA
- [redacted], USL
- [redacted], Grizzly
- [redacted] DINA

Jeff Allen
ms
H/10/83



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

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PROGRESS ESTIMATE

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE September 30 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 1 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
.0 WATER DISTRIBUTION SYSTEM							
.1 PVC CL 150 Water							
1.1.1 200mm diameter	m	540.7	385	155.7	65 00	10,120 50	35,145 50
1.1.2 150mm diameter	m	966.8	170	796.8	51 00	40,636 80	49,306 80
.2 Connection to Fort St. James system	LS					Deleted	Deleted
.3 Reconnection of Services							
1.3.1 19mm long services	m	116.5	-	116.5	50 00	5,825 00	5,825 00
1.3.2 19mm short services	ea	10	-	10	300 00	3,000 00	3,000 00
.4 Fire Hydrant Assemblies							
1.4.1 Fire Hydrants		11	-	11	1,300 00	14,300 00	14,300 00
1.4.2 Main Connections							
a) Ø200 main	ea	2	2		900 00		1,800 00
b) Ø150 main	ea	6	-	6	800 00	4,800 00	4,800 00
1.4.3 Connection to existing main	ea	3	-	3	2,000 00	6,000 00	6,000 00
1.4.4 Fire Hydrant Leads	m	22.5	-	22.5	50 00	1,125 00	1,125 00
TOTAL							

REMARKS

Payment Item 1.1.1 and 1.1.2 - actual quantity reduced by 10% to cover incomplete cleanup.

RETENTION _____%

BALANCE

PREVIOUS BALANCE**AMOUNT DUE**

PROJECT ENGINEER

RESIDENT INSPECTOR


urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

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 JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
 LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE September 30 19 83
 OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
 CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 2 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
.5 Fitting and Valve Combinations							
1.5.1 Kwah Road/ Highway 29	LS	100%	90%	10%	1,500 00	150 00	1,500 00
1.5.2 Charles Street/ Highway 29	LS	100%	100%	-	1,200 00		1,200 00
1.5.3 Prince Street/ Highway 29	LS	100%	90%	10%	2,700 00	270 00	2,700 00
1.5.4 Prince Street/ Highway 29	LS	100%	100%	-	1,300 00		1,300 00
1.5.5 Charles Street/ Prince Street	LS	100%	-	100%	1,200 00	1,200 00	1,200 00
1.5.6 Fort Street/ Prince Street	LS	100%	-	100%	1,600 00	1,600 00	1,600 00
1.5.7 Kwah Road/ Fort Street	LS	100%	-	100%	700 00	700 00	700 00
1.5.8 Kwah Road/near Fort Street	LS	100%	-	100%	1,300 00	1,300 00	1,300 00
.6 Connections to Existing Reserve Mains							
1.6.1 Prince Street/ Highway 29	LS				1,600 00		
1.6.2 Highway 29 (east side)	LS	100%	100%	-	600 00		600 00
1.6.3 Prince Street/ Charles Street	LS				900 00		
TOTAL							

REMARKS

 RETENTION _____ %
 BALANCE
 PREVIOUS BALANCE
 AMOUNT DUE


PROJECT ENGINEER

RESIDENT INSPECTOR


urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

 Communiqué en vertu de la
Loi sur l'accès à
l'information

 JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
 LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING. DATE September 30 19 83
 OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
 CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 3 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.6.4 Prince Street/ Fort Street	LS				900 00		
.7 Terminate Existing Mains							
1.7.1 Highway 29 (east) /Kwah Road	LS				600 00		
1.7.2 Kwah Road/ 2nd Avenue	LS				600 00		
.8 Package PRV Station							
1.8.1 Supply	LS				13,594 35	13,594 35	13,594 35
1.8.2 Site Preparation	LS				900 00		
1.8.3 Installation	LS				2,000 00		
.9 Highway Crossing							
1.9.1 Prince Street Intersection	m	15	-	15	200 00	3,000 00	3,000 00
.10 Imported Sand Bedding	m	1697.5	735	962.5	4 00	3,850 00	6,790 00
.11 Road Repair, Restoration and Clean Up							
1.11.1 Highway Crossing	LS	100%	-	100%	1,500 00	1,500 00	1,500 00
1.11.2 Kwah Road	LS				1,000 00		
1.11.3 Reserve Roads	LS				2,100 00		
1.11.4 Restoration and Cleanup	LS				1,000 00		
TOTAL							

REMARKS

 Payment Item 1.8.1 - reduced by \$750 to cover
start up cost by supplier.

RETENTION _____ %

BALANCE

PREVIOUS BALANCE

AMOUNT DUE



PROJECT ENGINEER

RESIDENT INSPECTOR



urban systems ltd.

CONSULTING ENGINEERS AND PLANNERS

Released under the Access
to Information Act

PROGRESS ESTIMATE

Released under the Access

Communiqué en vertu de la

L'Accès à l'Information

l'information

JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
LOCATION NECOSLIE INDIAN RESERVE NO. 1 ^{UPGRADING} DATE September 30 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 4 OF 4

[illegible]

REMARKS

Provisional Contract Item #1 - Extra paid at Contract unit rate for other terminations in Contract. The main on Kwah Road was not known to be in service.

P.C. Item #2 - Extra paid to remove and dispose of native wet soils encountered in the Highway 27 and Kwah Road crossing excavations and importing pit run gravel from the Band pit for backfill.

PC Item #3 - Lump sum extra negotiated with the Contractor to cover additional costs due to conflicts with existing watermains and services

P.C. Item #4 - Extra negotiated with Contractor to install new curb stops on existing services.

RETENTION	15 %	24,762	70
BALANCE		140,321	95
PREVIOUS BALANCE		38,517	75
AMOUNT DUE		101,804	20



PROJECT ENGINEER

RESIDENT INSPECTOR

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

November 22nd, 1983

Necoslie Band
P.O. Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief & Council

E4380-614

Re: Capital Project No. #51109

Title: Necoslie Waterworks Upgrading

Amount: \$297,000

I enclose a copy of the approved Band Council Resolution #85/614-15; 18 & 22(83-84) for the above Capital Project. We have requisitioned 100 % \$297,000.00 of the project funds. Release of funds will depend on receipt by this of the following:

1. Signed Audit for fiscal year 1982-83.
- #2 Is Not Applicable----- 2. A Certificate of Progress & Expenditure (copy attached) covering the initial advance of funds.
3. A Project Progress Report to be submitted by the District Project Officer or his representative.

If you require clarification on this matter, please contact the writer.

Yours truly,

JEFF GOLDIE
DISTRICT SUPERINTENDENT OF
BAND OPERATIONS
PRINCE GEORGE DISTRICT

Att.

47681

REC-1 010 248

Vancouver, B.C., V6Z 2J3

November 22nd, 1983.

District Manager,
Prince George District.

Your file Votre référence

Our file Notre référence

E4214-614

Re: Necoslie BCR 985/614-22 (83-84)
 Amendment to BCR 985/614-15 (83-84)
 Water Upgrading System \$50,000

The Regional Director General has approved the proposed allocation as outlined in the above-noted submission.

All expenditures are to be executed in accordance with the terms and conditions of the Band's Memorandum of Agreement.



Doreen Mullins,
Director Local Government,
B.C. Region.

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

Nov. 21, 1983
DATE

JACK SCOUTEN
HEAD, FINANCE & ADMINISTRATION
PRINCE GEORGE DISTRICT

Your file Votre référence

Our file Notre référence

E4380-614

Re: Neessie Band

Capital Project # 51109

Title: Neessie Waterworks Upgrading

Amount: \$ 297,000

I attach the following documents: 1) B.C.R. # 9851614-15; 18 & 22(83-84)
2) Cash Flow and a 3) P.I.C.D.

The following requirements have been met:

For An Advance:

- ☒ Technical Terms & Conditions have been agreed to by the Band.
- ☒ The scope of the work proposed is technically feasible.
- ☒ The cost estimate is appropriate.
- ☒ The Cash Flow is reasonable.
- ☒ An initial cash advance of \$ _____ is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- ☒ 1982-83 Audit has been received and reviewed.
- ☒ Certificate of Progress & Expenditure Report attached. (Band)
- ☒ Project Progress & Expenditure Report attached. (Project Officer)
- ☒ Terms & Conditions have been met, and the Band has performed the specified service.
- ☒ Release further funds in the amount of \$ 97,000 for the above Capital Project.


RECOMMENDATION DIST. SUPT./
BAND OPERATIONS


DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 OF THE F.A.A.

ROUTING SLIP

CONTRIBUTION AGREEMENTS

Released under the Access
to Information ActDistrict Office Prince GeorgeContribution Agreement/BCR 11/14/83-84Program Band operationsOriginator's Signature [Signature]Recipient NeessieDate of Contribution Agree. Nov. 3/83Value of this Contr. Agree. \$ 50,000Date Contribution Agree./BCR
received in District Office Nov. 4/83Prior Agreements for this purpose \$ 247,000Total - This Purpose \$ 297,000All other Agreements - Year to Date for this Band \$ 1,569,673 * 1,528,499Total Value of Contribution Agreements/BCR to date \$ 1,619,673 * 1,578,499

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations *			4/11/83	4/11/83	gjs
Head, Finance & Admin *	ok		7/11/83	11/12/83	[Signature]
District Manager *		for your recommendation.	14/11/83	14/11/83	

* If the time between date in and date out exceeds two working days, provide reason below:

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
1. Director, Band Ops	OK		16.11.83	16.11.83	LD
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
2. Capital Management	OK		83/11/16	83/11/16	[Signature]
3. Finance			16/11	16/11	
4. Director of Operations		Recommend			[Signature]
5. Regional Director Gen.		Approve	NOV 18 1983		[Signature]

* If the time between date in and date out exceeds two working days, provide reason below:

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

46359

NOV -4 ATO 37

Chronological No. / Numéro chronologique to Information Act / à l'information
985/614-22 (83-84)
File Reference / NO de référence à l'information
E4215-4-614; E4380-614

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds
NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$
AGENCY DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$
PLACE NOM DE L'ENDROIT	FORT ST. JAMES	Committed - Engagé	\$
DATE	03rd November 83 DAY - JOUR MONTH - MOIS AD 19 YEAR - ANNÉE		

DO HEREBY RESOLVE:

DECIDE, PAR LES PRESENTES:

SECOND AMENDMENT TO B.C.R.#985/614-15 (83-84)

AND REQUEST an additional \$50,000 for the construction of Phase One of the Necoslie Water System Upgrading Project on Necoslie I.R.#1.

AND THAT these funds are required for the 1983-84 fiscal year.

AND THAT this additional \$50,000 is required for the month of November, 1983.

AND THAT these funds shall be administered in accordance with our Local Service Agreement dated June 10th, 1980.

AND THAT this Amendment will become effective on the date approved and shall expire on July 31st, 1984.

AND THAT all other conditions as set out in B.C.R.#985/614-15 (83-84) shall apply to this Amendment.

This brings our total contribution for this project to \$297,000.

COMMITMENT
CERTIFICATE

No. 09018

This is to certify that this contribution arrangement meets the financial requirements outlined in the Minister's telex of July 8, 1980.

Financial Officer

Date

A quorum for this Bande
Pour cette bande le quorum est

consists of
fixé à FIVE

Council Members
Membres du Conseil

Mark Boylston
(Councillor - conseiller)

Re Sa
(Councillor - conseiller)

Carl Leon
(Councillor - conseiller)

(Councillor - conseiller)

Sam Mone
(Chief - Chef)

George Prince
(Councillor - conseiller)

Robert Prince
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR	3. Expenditure Dépenses	4. Authority - Autorité Indian Act Sec Ari. de la Loi sur les Indiens	5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenu
	A. Capital \$	B. Revenue - Revenu \$		
6. Recommended - Recommandable	Approved - Approuvable			
14/11/83 Date	NOV 18 1983			
DISTRICT MANAGER Recommending Officer - Rec	REGIONAL DIRECTOR GENERAL BRITISH COLUMBIA REGION			
A0430857_204-001041				

B.C. REGION INDIAN AND INUIT AFFAIRS
CONTRIBUTION AGREEMENT/B.C.R. CHECKLIST

FINANCE

- ☒ Recipient clearly identified
- ☒ Expenditure plan broken down by planning variable
- ☒ Signing date specified
- ☒ Purpose of agreement clearly stated
- ☒ Effective date and termination date specified
- ☒ Cash flow
- ☒ Maximum of three months advance at one time
- ☒ Quarterly or more frequent financial reports specified
- ☒ Conditions for final payment (i.e. proof of goods delivered)
- ☒ Annual audit provision
- ☒ Terms and conditions attached as required
- Region* ☒ Financial and operational certification at appropriate level

Signature 

Date _____

PROGRAM

- ☒ Will the contribution agreement achieve the desired impact?
- ☒ Is this the best use of all allocated funds? (Value for \$s spent)
- ☒ *NO* Is there a more effective way to achieve the Band's, Association's or individual's goal?
- ☒ Is recipient capable of fulfilling the terms and conditions?
- ☒ Is the total amount of the Contribution within the manager's signing authority?

IF A CAPITAL PROJECT

- ☒ Is a fully authorized Project Initiation Document attached?
- ☒ Are technical terms and conditions attached?
- ☒ Is a project officer assigned?

Signature 

Date 4/11/83

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

SECTION 1	Programme [2] Region - Région	District Prince George	Loi sur l'accès à l'information	RCM - GCR 9 8 5	CCM 8 1 9				
	Reserve - Réserve Necoslie I.R. #1	Band - Bande Necoslie	Band No. - N° de bande 0 0 6 1 4						
	Project Name - Titre du projet Water-Works Upgrading	Project Number - N° de projet 51109	B.C.R. - R.C.B. Y - A M D - J 8 3 0 9 2 0						
	Present Use of Form Utilisation actuelle de la formule	<input type="checkbox"/> Project Identification Identification du projet	<input checked="" type="checkbox"/> Project Change Modification de projet	<input type="checkbox"/> Annual Implementation App. annuelle d'exécution					
SECTION 2	Administered By Administré par	<input checked="" type="checkbox"/> Band Bande	<input type="checkbox"/> District	<input type="checkbox"/> Region Région					
	Project Scope - Portée du projet Design and construction of improvement of water-works to upgrade the existing water system at Necoslie I.R. #1. - See attached Capital Project Submission for detailed project scope.								
SECTION 3	Project Substantiation - Justification du projet See attached Capital Project Submission.								
SECTION 4	Special Factors - Facteurs particuliers 1. Final design of water-works is completed, and ready for tender. 2. Construction to be phased over two fiscal years commencing 1983/84. 3. Tenders for portion of the water-works closed on July 28/83, and the low bid is \$210,825. 4. Revision in Expenditures Plan only.								
	Re: Project Change (\$'000) 650	Present Approval - Déjà approuvés	Increase Requested - Augmentation demandée (0)	Expenditure to date - Fonds dépensés à ce jour					
SECTION 5	Project Cost/Funding Coût/Financement du projet		Expenditure Plan Plan des dépenses						
	Estimate Class Cat. de provisions [A]	Constant Constants <input type="checkbox"/>	Year Année	P.V. A.P.	DIAND MAIN \$'000	Band & Other Bande & Autres \$'000	Phases Etapes	Phase Codes Codes des étapes	
	Date Sept. 20, 1983	Current Courants <input checked="" type="checkbox"/>	1982/83	15	25		3	1 Identification	
	Funding Source Source de fonds	Capital \$'000 Immobilisations	Annual Q & M Annuels E & F \$'000	1983/84	15	297		4	2 Planning Planification
	DIAND - MAIN	650	3	1984/85	15	328		485	3 Design Conception
	Band - Bande								4 Construction
									5 Evaluation
	Total	650	3	Total		650			
	Project Recommendation/Project Change Approval Recommandation du projet/Approbation de modification								
	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.	Date 2/10/83	Regional Director - Directeur régional	Date 22/9/83					
Program Manager - Gestionnaire du programme	Date	Director, Capital Mgt. (H.D.) - Directeur, Gestion des invest. (A.C.)	Date						
Regional Director of E. & A. - Directeur régional de G. et A.	Date	Assistant Deputy Minister - Sous-ministre adjoint	Date						
Project Mgr./Officer - Gestionnaire/Chargé de projet	Date 83/09/20								
SECTION 6	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan.								
	Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.								
SECTION 7	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself.								
	AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES: En vertu de DF-5, le gestionnaire de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses.								
Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.		Project Manager - Gestionnaire de projet		Date 22/9/83					

A0430857_206-001043

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

November 14th, 1983

U R G E N T

DOREEN MULLINS
DIRECTOR/LOCAL GOVERNMENT
BRITISH COLUMBIA REGION

E4380-614

Attention: Alex McConnell
Head/Housing & Community Facilities

Re: B.C.R. #985/614-22 (83-84)

As the aggregate total of contributions for the Necoslie Band exceeds \$1,000,000; we are submitting the abovementioned B.C.R. for the Director General's approval.

NECOSLIE BAND

Previously approved aggregate of contributions:	\$1,528,499
Attached B.C.R. Request:	
B.C.R. #985/614-22 (83-84) Capital Project	
Waterworks Upgrading	\$ 50,000
TOTAL:	<u>\$1,578,499</u>

When the B.C.R. has been approved could you please:

- 1) Have T.K. Thien, Project Officer sign the attached Release Form. (Sect. 27) (Done)
- 2) Dex down an approved copy of the B.C.R. and Section 27 form by November 21st, 1983.

This is necessary as the Band is committed to pay their supplier by this date. District will make arrangements to wire the funds to the Band.

Thank you for your cooperation in this matter.

JEFF GOLDIE
DISTRICT SUPERINTENDENT OF
BAND OPERATIONS
PRINCE GEORGE DISTRICT

Att.

Communiqué en vertu de la
Loi sur l'accès à
l'information
#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

~~November 07th, 1983~~

Necoslie Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief & Council

E4380-614

RE: BAND COUNCIL RESOLUTION(S)

This is to acknowledge receipt of your Band Council Resolution dated
November 03rd, 1983 concerning the following:

\$ 50,000 - An additional to B.C.R. #985/614-15 & 615-18 (83-84)
For the construction of Phase 1 of the Necoslie
Water System Upgrading Project

This Resolution has been allotted number #985/614-22 (83-84)

This Resolution is now being referred to the appropriate Program
Manager for processing. Your Band will be advised on whether or
not it has been approved.

Yours truly,

JIM FLEURY
DISTRICT MANAGER
PRINCE GEORGE DISTRICT

ROUTING SLIP

CONTRIBUTION AGREEMENTS

Released under the Access
to Information ActDistrict Office Prince GeorgeContribution Agreement/BCR 1644-26(83-84)Program Band OperationsOriginator's Signature [Signature]Recipient Neessie BandDate of Contribution Agree. Nov. 4/83Value of this Contr. Agree. \$ 50,000Date Contribution Agree./BCR
received in District Office Nov. 9/83Prior Agreements for this purpose \$247,000Total - This Purpose \$297,000All other Agreements - Year to Date for this Band \$ 4796,998Total Value of Contribution Agreements/BCR to date \$ 1,846,998

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations	✓		Nov. 10/83	14/83	[Signature]
Head, Finance & Admin			Nov. 14/83		
District Manager					

* If the time between date in and date out exceeds two working days, provide reason below:

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Director, Band Ops					
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
Finance					
Director of Operations					
Regional Director Gen.					

* If the time between date in and date out exceeds two working days, provide reason below:

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

NOTE: The words "From our Band Funds" "Capital" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds
NOTA: Les mots "des fonds de notre bande" "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$
AGENCY DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$
PLACE NOM DE L'ENDROIT	FORT ST. JAMES	Committed - Engagé	\$
DATE	4 DAY - JOUR 11 MONTH - MOIS AD 19 83 YEAR - ANNÉE		

DO HEREBY RESOLVE:
DÉCIDE, PAR LES PRÉSENTES: SECOND AMENDMENT TO B.C.R.#985/614-15 (83-84)

AND REQUEST an additional \$50,000 for the construction of Phase One of the Necoslie Water System Upgrading Project on Necoslie I.R.#1.

AND THAT these funds are required for the 1983-84 fiscal year.

AND THAT this additional \$50,000 is required for the month of November, 1983.

AND THAT these funds shall be administered in accordance with our Local Service Agreement dated June 10th, 1980.

AND THAT this Amendment will become effective on the date approved and shall expire on July 31st, 1984.

AND THAT all other conditions as set out in B.C.R.#985/614-15 (83-84) shall apply to this Amendment.

This brings our total contribution for this project to \$297,000.

This is to certify that this contribution arrangement meets the financial requirements outlined in the Minister's letter of July 8, 1980.

Financial Officer: _____ Date: _____

A quorum for this Bande
Pour cette bande le quorum est

consists of FIVE
fixé à

Council Members
Membres du Conseil

Mark Barfoot
(Councillor - conseiller)

Ken San
(Councillor - conseiller)

Carl Lean
(Councillor - conseiller)

(Councillor - conseiller)

Sam Mahé
(Chief - Chef)

Francis Prince
(Councillor - conseiller)

Robert Dintore
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A. Capital \$	B. Revenue - Revenu \$	3. Expenditure Dépenses \$50,000	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens
				5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenu
6. Recommended - Recommandable			Approved - Approuvable	
14/11/83 Date			DISTRICT MANAGER Recommending Officer - Re	
			Date Approving Officer - Approuvé par	

#209-280 Victoria Street,
Prince George, B.C.
V2L 4X3

October 27, 1983.

Chief and Council,
Necoslie Band,
P.O. Box 1329,
Fort St. James, B.C.
VOJ 1P0

E3280-614

Dear Chief and Council:

Re: Phase One - Necoslie Water System Upgrading Project.

Enclosed for the Council's Approval and signature is an amending Band Council Resolution (this is the second amendment) to the original resolution for funds for the above-noted project.

The enclosed Band Council Resolution is for an additional \$50,000.

All we need returned is the original. The copy is for the Band's retention.

Yours truly,

JEFF GOLDIE,
SUPERINTENDENT OF BAND OPERATIONS,
PRINCE GEORGE DISTRICT.

JG/-m

attch.

209 - 280 Victoria Street,
Prince George, B.C.,
V2L 4X3,

Necoslie Band,
P.O. Box 1329,
FORT ST. JAMES, B.C.,
VOJ 1P0

October 19th, 1983,

E4380-614-D44

Attention: Chief Sam Moise.

Dear Chief Moise:

Re: Necoslie Water System Upgrading.

We acknowledge that the Band intends to incur an \$8,000.00 deficit in the above program, in order to have more of the work completed this construction season.

This is to confirm that these expenditures, to a maximum of \$8,000.00, will be reimbursed from future capital project funding, provided these expenditures are for works within the approved scope of the project, as agreed to in Band Council Resolution 985/614-15 (23/84).

The mention of the words "Band Funds" in your letter raises a separate issue. The District does not have the authority to approve actual transfer of these funds to other programs.

- 1) Band Capital funds expenditures are authorized by the Regional Director General for specific purposes outlined in Section 64 of the Indian Act. If the Band wishes to change the purpose for which released funds are to be used, they should submit a Band Council Resolution outlining this change, for approval by the Regional Director General.
- 2) Authorization for expenditures of Band Revenue Funds lies with the Band Membership.

I trust the above information is satisfactory.

Yours truly,

JIM FLEURY, JR.,
DISTRICT MANAGER,
PRINCE GEORGE DISTRICT.

Necoslie Indian Band

45352 OCT 17 A10:36

October 14, 1983

Box 1329
Fort St. James
Phone: 996-8228
or 996-7561

Department of Indian Affairs
and Northern Development
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

ATTENTION: JIM FLEURY JR.

Dear Mr. Fleury:

RE: Surplus and Band Funds

This is to confirm our telephone conversation of October 7,
in regards to the anticipated surplus of twelve thousand dollars
(\$12,000.00) of Phase I of Necoslie Water System Upgrading.

As agreed upon between T.K. Thien, yourself and I that the
Necoslie can spend eight thousand (\$8,000.00) dollars of Band Funds
to bring the total to twenty thousand (\$20,000.00) dollars. This
money will be used for extension along Fort Street.

We need a letter from your office to confirm our verbal agree-
ment of using Band Funds which we can recover from Phase II of
Water System Upgrading slated for 83-84 capital allocation.

Yours sincerely,

Sam Moise

Sam Moise,
Chief and Project Manager,
for Necoslie Band.

SM:lb

cc: Gary Stickel
T.K. Thien

*9/10/83,
please draft letter
for my signature
Johny
12/10/83*



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

99 North Second Avenue

Williams Lake, B.C.

V2G 1Z3

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

44571 SEP 30 AM 10:14

September 27, 1983.

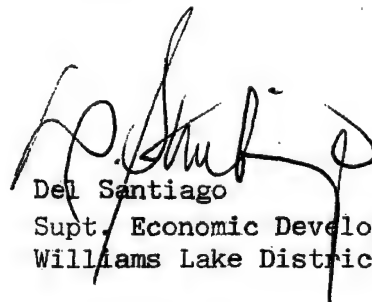
Department of Indian Affairs
Prince George District
209-280 Victoria Street
Prince George, B.C.
V2L 4X3

Your file Votre référence

ATTENTION: Mr. Gary Jung

Our file Notre référence

The attached copy of a CESO report from Joe Barber-Starkey
for the Necoslie Band of Fort St. James is obviously intended
for you.



Del Santiago
Supt. Economic Development
Williams Lake District

DS/cj
Attach.

cc: CESO
Vancouver, B.C.

Canada

A0430857_214-001051

CANADIAN EXECUTIVE SERVICE OVERSEAS

Copies of report by J. Barber-Starkey
(CESO Volunteer)
on Necoslie Band Water have been
(project) System
forwarded to:

<u>Copy No.</u>	<u>Name</u>	<u>Date</u>
1.	Jim Prince	
	Fort St. James	
2.	Del Santiago	
	DIA, Williams Lake	
3.	File 10188	

from the office of:
the Director for British Columbia
Suite 780
475 West Georgia Street
Vancouver, B.C.
V6B 4M9
Tel: (604) 689-7401

Canadian Indian Program

Communiqué en vertu de la
Loi sur l'accès à
l'information

MONTHLY SUMMARY REPORT BY VOLUNTEER

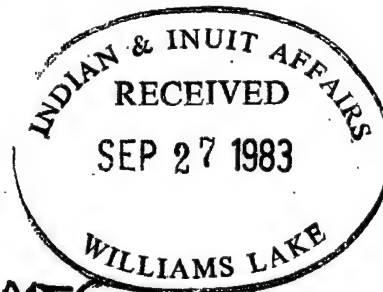
1506

Name of Volunteer: [REDACTED]

C.E.S.O Project No. 1158

Give name below of Indian Band, Corporation or individual

NECOSKIE BAND, FORT ST. JAMES.



Report for month of: SEPT. 1983

Summary of Visits, Highlights and General Remarks:

SINCE MY REPORT OF FEB. 1983 I HAVE BEEN IN TOUCH WITH THE SITUATION BY TOURS AND CORRESPONDENCE WITH THE BAND, DIA VANCOUVER AND THE MINISTERS OFFICE AT OTTAWA, ALSO WITH URBAN SYSTEMS, THE ENGINEERING CONSULTANTS.

WORK IS NOW PROCEEDING ON STAGE I OF THE URBAN SYSTEMS PROGRAM - INSTALLATION OF A NEW LOOP MAIN ON THE WEST SIDE, TWO HIGHWAY CROSSINGS ON THE EAST SIDE AND A TEMPORARY PRESSURE REDUCING STATION AT THE SUPPLY POINT FROM THE UPGRADED SYSTEM OF THE VILLAGE OF FORT ST JAMES. FUNDS HAVE BEEN PROMISED TO COMPLETE STAGE II, NEW MAINS IN THE SOUTHERN PART OF THE WEST SIDE AND THE NORTHERN PART OF THE EAST SIDE, IN 1984.

Estimated percentage of project completed:

100%

P.T.O.

Term of Assignment - Started - date:

18 Nov 81

if completed - date:

15 SEPT 83

Actual number of days on project this month:

3 1/2

Total number of days on project to this date:

18 3/4.

Recommendations if any.

- ① IT IS ESSENTIAL THAT ONE PERSON, PREFERABLY A BAND MEMBER, BE MADE RESPONSIBLE FOR THE SYSTEM, TO KNOW LOCATION OF ALL VALVES AND HYDRANTS AND ENSURE THEY ARE IN WORKING ORDER
- ② THIS PERSON SHOULD ATTEND THE NEXT "SHORT SCHOOL" AUTUMN AT PRINCE GEORGE BY THE B.C. WATER & WASTE ASSOCN

Date submitted:

SEPT 18/83

STCNA

A0430857_216-001053

2
ON SEPTEMBER 13-14 I VISITED ~~PRINCE GEORGE~~ AND TALKED TO DAVE McKERRACHER OF URBAN SYSTEMS AND ALEX MILLER, ENGINEER FOR DIA, THEN MET WITH CHIEF SAM MOISE AND TOURED THE SITE. THE WORK, BY GRIZZLY CONTRACTING, IS ABOUT 60% COMPLETE AND AS THE BAND IS SATISFIED BY THE PERFORMANCE AND ALSO AS THE CONSULTING ENGINEER IS EMPLOYED BY THE BAND AND HAS A RESIDENT INSPECTOR ON THE JOB, THERE IS NO NEED FOR ANY MORE INPUT FROM DESO.

I THEREFORE RECOMMEND, WITH THE CONCURRENCE OF CHIEF MOISE, THAT THE PROJECT BE SIGNED OFF.



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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to Information Act

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Loi sur l'accès à
l'information
#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

Sept 21/83

JACK SCOUTEN
HEAD, FINANCE & ADMINISTRATION
PRINCE GEORGE DISTRICT

Your file Votre référence

Our file Notre référence

E 4380-614

Re: NECOSLIE Band
Capital Project # 51109
Title: WATERWORKS UPGRADING
Amount: \$247,000

I attach the following documents: 1) B.C.R. # 985/614-15 (83-84),
2) Cash Flow and a 3) P.I.C.D.

The following requirements have been met:

For An Advance:

☐ Technical Terms & Conditions have been agreed to by the Band.
☐ The scope of the work proposed is technically feasible.
☐ The cost estimate is appropriate.
☐ The Cash Flow is reasonable.
☐ An initial cash advance of \$ _____ is required to meet
three months' cash requirements for the Capital Project.

For Further Release of Funds:

☐ 1982-83 Audit has been received and reviewed.
☐ Certificate of Progress & Expenditure Report attached. (Band)
☐ Project Progress & Expenditure Report attached. (Project Officer)
☒ Terms & Conditions have been met, and the Band has performed the
specified service.
☒ Release further funds in the amount of \$ 100,000 for the above
Capital Project.


RECOMMENDATION- DIST. SUPT./
BAND OPERATIONS


DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 OF THE F.A.A.

Canada

A0430857_218-001055



PROGRESS ESTIMATE

Communiqué en vertu de la
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l'information

JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 22
LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE AUGUST 31 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 1 OF 4

[illegible]

REMARKS:

Payment Item 1.1.1 - actual quantity reduced by 30% to cover cleanup, chlorination and pressure/leakage testing.

Payment Item 1.1.2 - actual quantity reduced by 10% to cover chlorination and pressure leakage testing.

RETENTION _____%
BALANCE
PREVIOUS BALANCE
AMOUNT DUE

PROJECT ENGINEER

RESIDENT INSPECTOR



urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

Communiqué en vertu de la
Loi sur l'Accès à
l'information

JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 2
LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE AUGUST 31 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 2 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAYT	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.5 Fitting and Valve Combinations							
1.5.1 Kwah Road/ Highway 29	LS	100%	90%	10%	1,500 00	1,500 00	1,500 00
1.5.2 Charles Street/ Highway 29	LS	100%	100%	100%	1,200 00	1,200 00	1,200 00
1.5.3 Prince Street/ Highway 29	LS	100%	90%	10%	2,700 00	2,700 00	2,700 00
1.5.4 Prince Street/ Highway 29	LS	100%	-	100%	1,300 00	1,300 00	1,300 00
1.5.5 Charles Street/ Prince Street	LS	100%	-	100%	1,200 00	1,200 00	1,200 00
1.5.6 Fort Street/ Prince Street	LS	100%	-	100%	1,600 00	1,600 00	1,600 00
1.5.7 Kwah Road/ Fort Street	LS	100%	-	100%	700 00	700 00	700 00
1.5.8 Kwah Road/near Fort Street	LS	100%	-	100%	1,300 00	1,300 00	1,300 00
1.6 Connections to Existing Reserve Mains							
1.6.1 Prince Street/ Highway 29	LS	100%	-	100%	1,600 00	1,600 00	1,600 00
1.6.2 Highway 29 (east side)	LS	100%	100%	100%	600 00	600 00	600 00
1.6.3 Prince Street/ Charles Street	LS	100%	-	100%	900 00	900 00	900 00
TOTAL						7,720	14,600

REMARKS

Payment Item 1.5.1 and 1.5.3 reduced by 10% to cover thrust block installation.

RETENTION _____ %

BALANCE

PREVIOUS BALANCE

AMOUNT DUE



PROJECT ENGINEER

RESIDENT INSPECTOR



Urban systems Ltd.
CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

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l'information

JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 22
LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE SEPTEMBER 31 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 3 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAYT	UNIT PRICE	AMOUNT THIS PAYMENT	TOTAL AMOUNT
1.6.4 Prince Street/ Fort Street	LS	100%	-	100%	900 00	900 00	900 00
1.7 Terminate Existing Mains							
1.7.1 Highway 29 (east) /Kwah Road	LS	100%	-	100%	600 00	600 00	600 00
1.7.2 Kwah Road/ 2nd Avenue	LS	7	-	7	600 00	4200 00	4200 00
1.8 Package PRV Station							
1.8.1 Supply	LS	100%	-	100%		14400 00	14400 00
1.8.2 Site Preparation	LS	100%	-	100%	900 00	900 00	900 00
1.8.3 Installation	LS	100%	-	100%	2,000 00	2000 00	2000 00
1.9 Highway Crossing							
1.9.1 Prince Street Intersection	m	15	-	15	200 00	3000 00	3000 00
1.10 Imported Sand Bedding	m	2935 1753	735	1300 235	4 00	5200 00 2,940 00	2140 00 2,940 00
1.11 Road Repair, Restoration and Clean Up							
1.11.1 Highway Crossing	LS	100%	-	100%	1,500 00	1500 00	1500 00
1.11.2 Kwah Road	LS	100%	-	100%	1,000 00	1000 00	1000 00
1.11.3 Reserve Roads	LS	100%	-	100%	2,100 00	2100 00	2100 00
1.11.4 Restoration and Cleanup	LS	100%	-	100%	1,000 00	1000 00	1000 00
TOTAL						36800	39740 00

REMARKS

* THIS ITEM ALSO USED TO PAY FOR
TERMINATION OF EXISTING MAINS, NOT PREVIOUSLY
KNOWN OF.

RETENTION _____ %
BALANCE _____
PREVIOUS BALANCE _____
AMOUNT DUE _____



PROJECT ENGINEER

RESIDENT INSPECTOR



Urban systems Ltd.
CONSULTING ENGINEERS AND PLANNERS

PROGRESS ESTIMATE

Communiqué en vertu de la
Loi sur l'Accès à
l'information

JOB NO. D659-4

PROJECT NECOSLIE WATER DISTRIBUTION SYSTEM ESTIMATE NO. 42
LOCATION NECOSLIE INDIAN RESERVE NO. 1 UPGRADING DATE ~~August~~ 31 19 83
OWNER NECOSLIE INDIAN BAND COMPLETION DATE NOVEMBER 5 19 83
CONTRACTOR GRIZZLY CONTRACTING CO. LTD. PAGE 4 OF 4

PAYMENT ITEM	UNIT	TOTAL QUANTITY	PREVIOUS QUANTITY	QUANTITY THIS PAY'T	UNIT PRICE		AMOUNT THIS PAYMENT		TOTAL AMOUNT
1.12 Highway 29/Necoslie Road Encasement Installation	m	18	-	18	100	00	1800	00	1800 00
			TOTAL						
PROVISIONAL CREDIT SUM									
1. EXISTING MAN COFFERS.							2000	00	2000 00
2. LOCABLE VALVE BOX LIDS							500	00	500 00
3. F.B.J. GUOERTON.							2000	00	2000 00
4. PIT RUN FOR HIGHWAY CLOSURES							2000	00	2000 00
5 MISCELLANEOUS.							2000	00	2000 00
							103200		103200
TOTAL							11032800		11032800

REMARKS

RETENTION 15 %

BALANCE

PREVIOUS

AMOUNT DUE

AMOUNT DUE

14.00

PROJECT ENGINEER

RESIDENT INSPECTOR

Aug 5/83.

[REDACTED]
DIRECTOR, ENGINEERING & ARCHITECT
BRITISH COLUMBIA REGION

Attention:

[REDACTED]
Head/Housing & Community
Facilities [REDACTED]

Project Identification & Change Document

The following P.I.C.D.(s) for Regionally-managed Projects are enclosed and have been signed by the R.C.M. & Program Manager, and initialled by the District Engineer signifying their recommendation.

Appropriate signatures by Regional Personnel are now required. Once these are obtained please return the P.I.C.D.(s) to the Prince George District office for signature by the Director of Finance and Responsibility Centre Manager (R.C.M.). A copy of the completed P.I.C.D. (s) will then be returned to you as the Project Manager/Officer's authority.

Enclosed P.I.C.D. (s):

<u>C.C.M. #</u>	<u>Project Name & No.</u>	<u>Project Change No.</u>
985/89	Water-Works Upgrading	

Vancouver, B. C.

41622

AUG -5

V7Y 1G1

July 29, 1983

Manager
Prince George District

Attention: (1) Mr. J. Goldie
(2) Mr. A. Miller

Your file Votre référence

Our file Notre référence E4380-614 (TCC.1)


Re: Project #51109
Necoslie Waterworks Upgrading

Further to my discussion with Messrs J. Goldie and A. Miller on July 28, 1983, at Tache I.R., I would like to confirm that the total cost to complete a portion of the Necoslie Water Distribution System is \$247,000. The cost breakdown of this estimated amount is as follows:

- a) Construction cost based on apparent low bid = \$210,825
- b) Engineering services including preconstruction services, contract management services and post construction services = \$ 36,459
- \$247,284
- Say = \$247,000

As the approved current budget for this project is only \$200,000, you concurred that District will make available an additional amount of \$47,000 to increase the revised budget to \$247,000.

Urban System Ltd. the consulting firm retained by the Band Council is presently reviewing the tenders. It is envisaged a contract will be awarded to the low bidder very shortly. Revised PICD to reflect the change in Expenditure Plan is enclosed herewith for signatures.


T.K. Thien
Project Officer

Encl.

cc: (1) Necoslie Band Council
(2) Urban System Ltd/Prince George
(3) Project file.

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

Communiqué en vertu de la Loi sur l'accès à l'information

SECTION 1	Programme Programme	2	Region - Région	District Prince George	RCM - GCR 9 8 5	CCM GCC 8 9			
	Reserve - Réserve Necoslie I.R. #1	Band - Bande Necoslie	Project Number - N° de projet 51109	B.C.R. - R.C.B. Y - A M D - J 8,3 0,7 2,9	Band No. - N° de bande 0 0 6 1 4				
SECTION 2	Present Use of Form / Utilisation actuelle de la formule <input type="checkbox"/> Project Identification / Identification du projet <input checked="" type="checkbox"/> Project Change / Modification de projet <input type="checkbox"/> Annual Implementation App. / App. annuelle d'exécution								
	Administered By / Administré par <input checked="" type="checkbox"/> Band / Bande <input type="checkbox"/> District <input type="checkbox"/> Region / Région								
SECTION 3	Project Scope - Portée du projet Design and construction of improvement of water-works to upgrade the existing water system at Necoslie I.R. #1. - See attached Capital Project Submission for detailed project scope.								
	Project Substantiation - Justification du projet See attached Capital Project Submission.								
SECTION 4	Special Factors - Facteurs particuliers 1. Final design of water-works is completed, and ready for tender. 2. Construction to be phased over two fiscal years commencing 1983/84. 3. Tenders for portion of the water-works closed on July 28/83, and the low bid is \$210,825. 4. Revision in Expenditures Plan only.								
	Re: Project Change (\$'000) / Objet: Modification Present Approval - Déjà approuvés Increase Requested - Augmentation demandée (0) Expenditure to date - Fonds dépensés à ce jour								
SECTION 5	Project Cost/Funding Coût/Financement du projet		Expenditure Plan Plan des dépenses						
	Estimate Class Cat. de prévisions Date	Constant Constants Current Courants	Year Année	P.V. A.P.	DIAND MAIN \$'000	Band & Other Bande & Autres \$'000	Phases Étapes Phase Codes Codes des étapes		
SECTION 6	Funding Source Source de fonds	Capital \$'000 Immobilisations	Annual O & M Annuel E & E \$'000	P.Y. - A.P.	1982/83	15	25	3	1 Identification
	DIAND - MAIN Band - Bande	650	3		1983/84	15	247	4	2 Planning Planification
SECTION 7	Total		650	3	Total	650			5 Evaluation
	Project Recommendation/Project Change Approval Recommandation du projet/Approbation de modification								
SECTION 8	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.		Date	Regional Director-General - Directeur général régional		Date			
	Program Manager - Gestionnaire du programme		Date	Director, Capital Mgt. (H.Q.) - Directeur, Gestion des Invest. (A.C.)		Date			
SECTION 9	Regional Director of E. & A. - Directeur régional de G. et A.		Date	Assistant Deputy Minister - Sous-ministre adjoint		Date			
	Project Mgr./Officer - Gestionnaire/Chargé de projet		Date						
SECTION 10	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan. Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.								
	Director of Finance - Directeur des services financiers Date								
SECTION 11	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself.								
	AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DEPENSES: En vertu de DF-5, le gestionnaire de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses.								
A0430857_225-001062									
Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp. Date Project Manager - Gestionnaire de projet Date									

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

November 10th, 1983

Necoslie Band
P.O. Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief & Council

E4380-614

Re: Capital Project No. # 51109

Title: Waterworks Upgrading

Amount: \$ 247,000.00

I enclose a copy of the approved Band Council Resolution # 985/614-18 (83-84)
for the above Capital Project. We have requisitioned 100 % \$ 47,000.00 of
the project funds. Release of funds will depend on receipt by this of the
following:

1. Signed Audit for fiscal year 1982-83.

#2 Is Not Applicable--- 2. A Certificate of Progress & Expenditure (copy attached)
covering the initial advance of funds.

3. A Project Progress Report to be submitted by the District
Project Officer or his representative.

If you require clarification on this matter, please contact the writer.

Yours truly,

JEFF GOLDIE
DISTRICT SUPERINTENDENT OF
BAND OPERATIONS
PRINCE GEORGE DISTRICT

Att.



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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Communiqué en vertu de la
Loi sur l'accès à

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

Nov 9, 1983

JACK SCOUTEN
HEAD, FINANCE & ADMINISTRATION
PRINCE GEORGE DISTRICT

Your file Votre référence

E4380-614 (T.C.C.1)

Our file Notre référence

E4380-614

Re: Necashie Band

Capital Project # 51109

Title: Gravel-works Upgrading

Amount: \$ 247,000

I attach the following documents: 1) B.C.R. # 985/614-15 & 614-18 (83-84)
2) Cash Flow and a 3) P.I.C.D.

The following requirements have been met:

For An Advance:

- ☐ Technical Terms & Conditions have been agreed to by the Band.
- ☐ The scope of the work proposed is technically feasible.
- ☐ The cost estimate is appropriate.
- ☐ The Cash Flow is reasonable.
- ☐ An initial cash advance of \$ _____ is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- ☐ 1982-83 Audit has been received and reviewed.
- ☐ Certificate of Progress & Expenditure Report attached. (Band)
- ☐ Project Progress & Expenditure Report attached. (Project Officer)
- ☒ Terms & Conditions have been met, and the Band has performed the specified service.
- ☒ Release further funds in the amount of \$ 47,000 for the above Capital Project.

JB
RECOMMENDATION- DIST. SUPT./
BAND OPERATIONS

Polis
DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 OF THE F.A.A.

Canada

A0430857_227-001064



Indian and
Northern Affairs

Affaires indiennes
et du Nord

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

46512 Vancouver, B.C. V6Z 2J3

October 28th, 1983.

District Manager,
Prince George District.

Your file Votre référence

Our file Notre référence

Re: Necoslie Band BCR #985/614-18 (83-84)
Water System Upgrading Project
\$47,000

The Regional Director General has approved the proposed allocation
as outlined in the above-noted submission.

All expenditures are to be executed in accordance with the terms and
conditions of the attached agreement.

Doreen Mullins,
Director Local Government,
B.C. Region.

ROUTING SLIP
CONTRIBUTION AGREEMENTS

Released under the Access
to Information Act

District Office Prince George Contribution Agreement/BCR 1614 18(83-84)
 Program Band Operations Originator's Signature John O'Driscoll
 Recipient Nessie Band Date of Contribution Agree. Sept 12/83
 Value of this Contr. Agree. \$ 47,000 Date Contribution Agree./BCR
 received in District Office Sept 21/83
 Prior Agreements for this purpose \$200,000
 Total - This Purpose \$247,000

All other Agreements - Year to Date for this Band \$ ~~1,478,421~~ 1,437,247 ⁸⁰
 Total Value of Contribution Agreements/BCR to date ~~\$1,525,421~~ 1,484,247 ⁸⁰

DISTRICT OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Education					
Program Superintendent					
Social Development					
Program Superintendent					
Economic Development					
Program Superintendent					
Reserves and Trust					
Program Superintendent					
Head, Band Operations *	✓	please complete attached forms if recommending.	22/9/83	22/9	
Head, Finance & Admin *	ok	Region approval Keyd	23/9/83	27/9/83	JK
District Manager					

* If the time between date in and date out exceeds two working days, provide reason below:

REGIONAL OFFICE ROUTING

	MEETS REQUIRE- MENTS	COMMENTS	DATE IN	DATE OUT *	INITIALS
Director, Band Ops	OK	Band have liked casual	3/10/83	5/10/83	
Education					
Program Director					
Social Development					
Program Director					
Economic Development					
Program Director					
Reserves and Trust					
Program Director					
CATT. <u>M. H. H. H. H. H.</u>	OK	no back terms		23/10/11	JB
Finance <u>ok W</u>	✓		19/10	19/10	
Director of Operations		RECOMMEND			
Regional Director Gen.		ATTACH	OCT 24 1983		

* If the time between date in and date out exceeds two working days, provide reason below:

Necoslie Indian Band

Box 1329
Fort St. James
Phone: 996-8228
or 996-7561

September 16, 1983

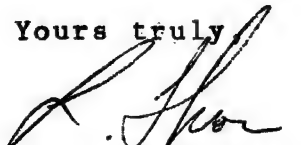
Department of Indian Affairs
and Northern Development
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

Dear Sir/Madame:

Please find enclosed two (2) Necoslie Band Council Resolutions
in regards to:

1. Amendment to B.C.R. 985/614-15 (83-84).
2. Reserves and Trust Forestry Fund.

Yours truly,



Leonard Thomas,
Band Manager.

For Chief and Council
Necoslie Indian Band

Enclosure

cc: Jim Fleury Jr./District Manager.

T.K. Thien/Project Engineer.

Jennifer Parkinson/District Forester.

B.C. REGION INDIAN AND INUIT AFFAIRS
CONTRIBUTION AGREEMENT/B.C.R. CHECKLIST

FINANCE

- ☒ Recipient clearly identified
- ☒ Expenditure plan broken down by planning variable
- ☒ Signing date specified
- ☒ Purpose of agreement clearly stated
- ☒ Effective date and termination date specified
- ☒ Cash flow
- ☒ Maximum of three months advance at one time
- ☒ Quarterly or more frequent financial reports specified
- ☒ Conditions for final payment (i.e. proof of goods delivered)
- ☒ Annual audit provision
- ☒ Terms and conditions attached as required
- ☒ Financial and operational certification at appropriate level

Region

Signature *[Signature]*

Date _____

PROGRAM

- ☒ Will the contribution agreement achieve the desired impact?
- ☒ Is this the best use of all allocated funds? (Value for \$s spent)
- ☒ Is there a more effective way to achieve the Band's, Association's or individual's goal?
- ☒ Is recipient capable of fulfilling the terms and conditions?
- ☒ Is the total amount of the Contribution within the manager's signing authority?

IF A CAPITAL PROJECT

- ☒ Is a fully authorized Project Initiation Document attached? ...
- ☒ Are technical terms and conditions attached?
- ☒ Is a project officer assigned?

Signature *[Signature]*

Date 23/9/23



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Indian and Inuit Affairs

Affaires indiennes et inuit

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

Chronological No. / Numéro chronologique
to Information Act / en vertu de la
985/614-18 (83-84)
File Reference / No. de réf. du dossier
Loi sur l'accès à
l'information
E4215-4-614; E4380-614

NOTE: The words "From our Band Funds", "Capitals" or "Revenue", which ever is the case, must appear in all resolutions requesting expenditures from Band Funds
NOTA: Les mots "des fonds de notre bande", "Capital" ou "revenu" selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$
AGENCY DISTRICT	PRINCE GEORGE	Committed - Engagé	\$
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$
PLACE NOM DE L'ENDROIT	FORT ST. JAMES	Committed - Engagé	\$
DATE	12 09 AD 19 83 DAY - JOUR MONTH - MOIS YEAR - ANNÉE		

DO HEREBY RESOLVE:
DECIDE, PAR LES PRÉSENTES:

AMENDMENT TO B.C.R. 985/614-15 (83-84)

And request an additional \$47,000.00 for the construction of Phase One of the Necoslie Water System Upgrading Project on Necoslie I.R. #1.

And that these funds shall be administered in accordance with our Local Service Agreement dated June 10, 1980. These funds are required for the 1983-84 fiscal year and that this agreement will become effective on the date signed and expire July 1st, 1984.

That all other conditions as set out in B.C.R. #985/614-15 (83-84) shall apply to this amendment. This brings our total contribution for this project to \$247,000.00

And that these funds are required for September 1983.

COMMITTEE
CERTIFICATE
No. 09018

A quorum for this Bande
Pour cette bande le quorum est

consists of 05
fixé à

Council Members
Membres du Conseil

Robert [Signature]
(Councillor - conseiller)
Mark [Signature]
(Councillor - conseiller)
Carl [Signature]
(Councillor - conseiller)
(Councillor - conseiller)

Sam [Signature]
(Chief - Chef)
Florence [Signature]
(Councillor - conseiller)
[Signature]
(Councillor - conseiller)
(Councillor - conseiller)
(Councillor - conseiller)

This is to certify that this contribution arrangement meets the financial requirements outlined in the Minister's letter of July 8, 1980.

[Signature]
Financial Officer
20/10/83
Date

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1. Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A. Capital \$	B. Revenue - Revenu \$	3. Expenditure Dépenses \$ 47,000	4. Authority - Autorité Indian Act Sec Art. de la Loi sur les Indiens
5. Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue				
6. Recommended - Recommandable			Approved - Approuvable	
22/9/83 A/ [Signature] Date District Manager Recommending Officer - Rec			OCT 21 1983 [Signature] Date Director General	
A0430857_232-001069				

BRITISH COLUMBIA REGION

Vancouver, B. C.

41622 AUG -5 V7X 161
AIO 27

July 29, 1983

Manager
Prince George District

Attention: (1) Mr. J. Goldie
(2) Mr. A. Miller

Your file Votre référence

Our file Notre référence E4380-614 (TCC.1)

Re: Project #51109
Necoslie Waterworks Upgrading

Further to my discussion with Messrs J. Goldie and A. Miller on July 28, 1983, at Tache I.R., I would like to confirm that the total cost to complete a portion of the Necoslie Water Distribution System is \$247,000. The cost breakdown of this estimated amount is as follows:

- a) Construction cost based on apparent low bid = \$210,825
- b) Engineering services including preconstruction services, contract management services and post construction services = \$ 36,459
- \$247,284
- Say = \$247,000

As the approved current budget for this project is only \$200,000, you concurred that District will make available an additional amount of \$47,000 to increase the revised budget to \$247,000.

Urban System Ltd. the consulting firm retained by the Band Council is presently reviewing the tenders. It is envisaged a contract will be awarded to the low bidder very shortly. Revised PICD to reflect the change in Expenditure Plan is enclosed herewith for signatures.

T.K. Thien

T.K. Thien
Project Officer

Encl.

cc: (1) Necoslie Band Council
(2) Urban System Ltd/Prince George
(3) Project file.

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

SECTION 1	Program / Programme	2	Region - Région	Prince George	RCM - GCR	9 8 5	CCM	8 9																																															
	Reserve - Réserve	Necoslie I.R. #1			Band - Bande	Necoslie																																																	
	Project Name - Titre du projet	Water-Works Upgrading			Project Number - N° de projet	51109																																																	
	Present Use of Form / Utilisation actuelle de la formule	<input type="checkbox"/> Project Identification / Identification du projet <input checked="" type="checkbox"/> Project Change / Modification de projet <input type="checkbox"/> Annual Implementation App. / App. annuelle d'exécution			B.C.R. - R.C.B.	Y-A M D-J 8 3 0 7 2 9																																																	
SECTION 2	Administered By / Administré par	<input checked="" type="checkbox"/> Band / Bande <input type="checkbox"/> District <input type="checkbox"/> Region / Région																																																					
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SECTION 3	Project Substantiation - Justification du projet See attached Capital Project Submission.																																																						
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SECTION 4	Re: Project Change (\$'000) / Objet: Modification	Present Approval - Déjà approuvés			Increase Requested - Augmentation demandée (0)	Expenditure to date - Fonds dépensés à ce jour																																																	
	Project Cost/Funding / Coût/Financement du projet: <table border="1"> <tr> <th>Estimate Class / Cat. de prévisions</th> <th>Constant / Constants</th> <th>Year / Année</th> <th>P.V. / A.P.</th> <th>DIAND MAIN \$'000</th> <th>Band & Other / Bande & Autres \$'000</th> <th>Phases / Étapes</th> <th>Phase Codes / Codes des étapes</th> </tr> <tr> <td>Date</td> <td>Current / Courants</td> <td>1982/83</td> <td>15</td> <td>25</td> <td></td> <td>3</td> <td>1 Identification</td> </tr> <tr> <td>Funding Source / Source de fonds</td> <td>Capital \$'000 / Immobilisations</td> <td>1983/84</td> <td>15</td> <td>247</td> <td></td> <td>4</td> <td>2 Planning / Planification</td> </tr> <tr> <td>DIAND - MAIN</td> <td>650</td> <td>1984/85</td> <td>15</td> <td>378</td> <td></td> <td>4&5</td> <td>3 Design / Conception</td> </tr> <tr> <td>Band - Bande</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>4 Construction</td> </tr> <tr> <td>Total</td> <td>650</td> <td>3</td> <td></td> <td>650</td> <td></td> <td></td> <td>5 Evaluation</td> </tr> </table>								Estimate Class / Cat. de prévisions	Constant / Constants	Year / Année	P.V. / A.P.	DIAND MAIN \$'000	Band & Other / Bande & Autres \$'000	Phases / Étapes	Phase Codes / Codes des étapes	Date	Current / Courants	1982/83	15	25		3	1 Identification	Funding Source / Source de fonds	Capital \$'000 / Immobilisations	1983/84	15	247		4	2 Planning / Planification	DIAND - MAIN	650	1984/85	15	378		4&5	3 Design / Conception	Band - Bande							4 Construction	Total	650	3		650		
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Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.																																																							
Manager - Gestionnaire de projet																																																							

CASH FLOW PROJECTION

FOR 1983-84 BAND BUDGET

A0430857_235-001072

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

September 28th, 1983

DOREEN MULLINS
DIRECTOR/LOCAL GOVERNMENT
BRITISH COLUMBIA REGION

E4380-614 (TCC.1)

Attention: Alex McConnell
Head/Housing & Community
Facilities

E4380-614

Re: B.C.R. #985/614-18 (83-84)

As the aggregate total of contributions for the Necoslie Band exceeds \$1,000,000; we are submitting the abovementioned B.C.R. for the Director General's approval.

NECOSLIE BAND

Previously approved aggregate of contributions: \$ 1,478,421

Attached B.C.R. Request:

B.C.R. #985/614-18 (83-84) Capital Project #51109

Service Code: 6071

Waterworks Upgrading \$ 47,000

No.: S243

TOTAL: \$ 1,525,421

** Please have the Project Officer, T.K. Thien sign the attached Capital Project Release Form upon approval. Thank you for your cooperation in this matter.

JEFF GOLDIE
DISTRICT SUPERINTENDENT OF
BAND OPERATIONS
PRINCE GEORGE DISTRICT

Attachments

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

September 22nd, 1983

Necoslie Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief & Council

E4380-614

RE: BAND COUNCIL RESOLUTION(S)

This is to acknowledge receipt of your Band Council Resolution dated
September 12th, 1983 concerning the following:

\$ 47,000 - An additional request of funds for the construction
of Phase 1 of the Necoslie Water System Upgrading

This Resolution has been allotted number #985/614-18 (83-84)

This Resolution is now being referred to the appropriate Program
Manager for processing. Your Band will be advised on whether or
not it has been approved.

Yours truly,

JIM FLEURY
DISTRICT MANAGER
PRINCE GEORGE DISTRICT



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

Vancouver, B. C.

V7Y 1C1

43586 SEP 12 1983
September 12, 1983

Manager
Prince George District

Your file Votre référence

Our file Notre référence E4380-614 (TCC.1)

Re: Project #51109
Water Works Upgrading
Necoslie I.R. #1

Reference is made to Chief Councillor Sam Moise letter dated September 2, 1983 concerning the installation of water main along Charles Street.

I agree with the concern expressed by Chief Councillor in his letter. As you will recollect, I have discussed the additional work with you during your recent visit to B.C. Region. As per our discussion the additional estimated cost given by Urban Systems Ltd. to install the water main along Charles Street is \$43,900. I would recommend that if funds are available, we should increase the funding of the existing Contribution Arrangement by an additional amount of \$44,000 so as to include the installment of the water main along Charles Street.

In order to take advantage of the Band's existing construction contract with Grissly Construction, a decision regarding the availability of additional funds not later than September 15, 1983 would be appreciated.

T.K. Thien

T.K. Thien
Project Manager

cc: (1) Necoslie Band
Attention: Mr. S. Moise

(2) Project file.

Jeff let's discuss this!
(92)

Canada

Necoslie Indian Band

43223 SEP -7 110:17

Box 1329
Fort St. James
Phone: 996-8228
or 996-7561

September 02, 1983

Department of Indian Affairs
and Northern Development
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

ATTENTION: JIM FLEURY JR.

Dear Sir:

RE: CHARLES STREET WATERMAIN INSTALLATION

Dale Sinclair, Grizzly Construction and Rob Vandoremalen, Urban Systems expressed their concern in regards to services lines to six houses. The six houses are presently being serviced from an old four (4) inch main which is a part of the old reservoir system. Some of these services run into the back of the house. Once the new system is in place, these houses will have their plumbing in the wrong part of the house.

The main concern is once the new system is in place, then the old four (4) inch main will be abandoned. This will create longer services to all houses in question.

The only way to rectify the problem is install a new line along Charles Street. Call me as soon as possible in this regards.

Yours truly,

Sam Moise
Sam Moise,
Chief.

Necoslie Band.

SM:lb

cc: T.K. Thien

Jeff
this as per our discussion
7/04/83
P.M.
Discussed with Sam Moise
also today
7/04/83

August 17, 1983

Our File: E659-1

Necoslie Indian Band
Box 1329
Fort St. James, B.C.
VOJ 1P0

Attention: Chief Sam Moise

Dear Sir:

Re: Water Distribution Systems - Project Expansion

From preliminary discussions with Grizzly Contracting Ltd. they propose to complete the work within their contract within three or four weeks. If such is the case it is possible additional works can be completed within the construction period provided Grizzly prove to do quality work and are reasonable to deal with. To inform the Band of the work that could be constructed should an additional \$50,000 be made available by DINA we have prepared cost estimates, based where possible on Grizzly's unit price for two water system extension alternatives which are as follows:

1.0 Alternative No. 1

This alternative consists of the installation of watermain, fire hydrants and services along Charles Street. The estimated cost of this alternative is:

1.1	Ø150mm watermain	550m @ \$ 51	\$ 28,050
1.2	Ø19mm services		
	- short reconnections	4 @ \$ 300	1,200
	- long reconnections	30m @ \$ 50	1,500
1.3	Fire hydrant assemblies		
1.3.1	Fire hydrants	2 @ \$1,300	2,600
1.3.2	Main connections	2 @ \$ 800	1,600
1.3.3	Fire hydrant leads	10m @ \$ 50	500

.../2

1.4	Fittings and valve connections			
1.4.1	22½ + 45° bend	L.S.	\$	700
1.4.2	Ø150mm valve	L.S.		850
1.5	Imported class "B" bedding	600m @ \$	4	2,400
1.6	Restoration and cleanup	L.S.		500
	Total		\$	39,900
	Add 10% Engineering & Contingencies			4,000
	Total Estimated Cost of Alternative No. 1		\$	43,900

2.0 Alternative No. 2

This alternative involves the installation of watermains, fire hydrants and services along the west side of Highway 27 between Prince Street and Necoslie Road and along Necoslie Road from Highway 27 to the termination point opposite the Band Work Shop area. The estimated cost of this alternative is:

2.1	Ø200 watermain	730m @ \$	65	\$ 47,450
2.2	Services			
2.2.1	Short reconnection	5 @ \$	300	1,500
2.2.2	Long connection			
	- Ø19mm service	190 @ \$	50	9,500
	- Ø25mm service	60 @ \$	55	3,300
2.3	Highway crossing (main installation only)	18m @ \$	100	1,800
2.4	Fire hydrant assemblies			
2.4.1	Fire hydrants	4 @ \$	1,300	5,200
2.4.2	Main connections	4 @ \$	900	3,600
2.4.3	Fire hydrant leads	20m @ \$	50	1,000
2.5	Fittings and valve combination			
2.5.1	Ø200mm end cap	L.S.		200
2.5.2	Ø200mm tee, Ø200 valve and Ø150 valve	L.S.		2,000
2.5.3	Ø200mm valve	1 @ \$	900	900
2.6	Imported class "B" bedding	1000m @ \$	4	4,000
2.7	Restoration and cleanup	L.S.		500
	Total		\$	81,000
	Add 10% Engineering & Contingencies			8,100
	Total Estimated Cost of Alternative No. 2		\$	89,100

.../3

From the above, Alternative No. 1 is the only viable alternative for the funds that are likely to become available. Also items within Alternative No. 1 are substantially extensions of the existing contract, however several payment items in Alternative No. 2 such as items 2.2.2, 2.3 and 2.5 would have to be negotiated with the Contractor.

Other alternatives are available, such as the extension of watermain along Fort Street south of the Prince Street intersection, however this area involves different soils conditions as well as a higher ground water table, which would mean virtually the whole contract would have to be negotiated.

Trusting this is the information you require to formulate a decision on the area of contract extension. Upon review of our cost estimate should you have any questions, please do not hesitate to call.

Yours truly,

URBAN SYSTEMS LTD.



Gary Stickel, C.E.T.

GS/ms

c.c. - T.K. Thien, P.Eng.

s.19(1)

*Released under the Access
to Information Act*

*Communiqué en vertu de la
Loi sur l'accès à
l'information*

**#209-280 Victoria St.
Prince George, B.C.
V2L 4X3**

August 15th, 1983

**HEAD/TECHNICAL ADMINISTRATION
ENGINEERING & ARCHITECTURE**

E4380-614 (TA)

E4380-614

**Re: P.I.C.D. NECOSLIE WATER-WORKS UPGRADING
PROJECT #51109**

**Please find attached the abovenoted P.I.C.D. for the Project
Officer's signature in Section 7. Upon completion please
send three (3) copies to my attention. Thanks for your
assistance in this matter.**

**GERI DERRICK
BAND OPERATIONS CLERK
PRINCE GEORGE DISTRICT**

Att.

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

Released under the Access to Information Act / Communiqué en vertu de la Loi sur l'accès à l'information

SECTION 1	Program / Programme	2	Region - Région		District	Prince George	RCM - GCR	9 8 5	CCM	8 9
	Reserve - Réserve		4 1 1 1	Band - Bande	Necoslie		Band No. - N° de bande	0 0 6 1 4		
	Project Name - Titre du projet		Water-Works Upgrading	Project Number - N° de projet	51109	B.C.R. - R.C.B.	Y - A	M	D - J	
	Present Use of Form / Utilisation actuelle de la formule	<input type="checkbox"/>	Project Identification / Identification du projet	<input checked="" type="checkbox"/>	Project Change / Modification de projet	<input type="checkbox"/>	Annual Implementation App. / App. annuelle d'exécution			
SECTION 2	Administered By / Administré par	<input checked="" type="checkbox"/>	Band / Bande		District		Region / Région			
	Project Scope - Portée du projet	<p>Design and construction of improvement of water works to upgrade the existing water system at Necoslie I.R. #1.</p> <p>- See attached Capital Project Submission for detailed project scope.</p>								
SECTION 3	Project Substantiation - Justification du projet	See attached Capital Project Submission.								
	Special Factors - Facteurs particuliers	<p>1. Final design of water-works is completed, and ready for tender.</p> <p>2. Construction to be phased over two fiscal years commencing 1983/84.</p>								
SECTION 4	Re: Project Change / Objet: Modification	(\$'000)	225	Present Approval - Déjà approuvés	425	Increase Requested - Augmentation demandée	425	Expenditure to date - Fonds dépensés à ce jour		
	Project Cost/Funding / Coût/Financement du projet	Estimate Class / Cat. de prévisions	A	Constant / Constants	<input type="checkbox"/>	Year / Année	1982/83	P.V. / A.P.	15	DIAND - MAIN
SECTION 5	Funding Source / Source de fonds	Capital \$'000 / Immobilisations	650	Annual / Annuel	Q & M / E & E	1983/84	15	200	4	2 Planning / Planification
	DIAND - MAIN	650	3	1984/85	15	425	4 & 5	3 Design / Conception		
	Band - Bande							4 Construction		
								5 Evaluation		
	Total	650	3	Total		650				
SECTION 6	Project Recommendation/Project Change Approval / Recommandation du projet/Approbation de modification	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.	Date	83-06-27	Regional Director-General - Directeur général régional	Date	83-06-27			
	Program Manager - Gestionnaire du programme	Date	83/4/24	Director, Capital Mgt. (H.Q.) - Directeur, Gestion des invest. (A.C.)	Date					
	Regional Director of E. & A. - Directeur régional de G. et A.	Date	83/6/27	Assistant Deputy Minister - Sous-ministre adjoint	Date					
	Project Manager/Officer - Gestionnaire/Chargé de projet	Date	June 27/83							
SECTION 7	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan.	Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.								
	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself.	<p>A0430857_244-001081</p> <p>Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.</p> <p>Project Manager - Gestionnaire de projet</p> <p>Date</p>								

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

Communiqué en vertu de la Loi sur l'accès à l'information

SECTION 1	Program Programme	2	Region - Région		District Prince George	RCM - GCR	9 8 5	CCM GCC	8 9	
	Reserve - Réserve	41477	Necoslie I.R. #1		Band - Bande	25	Band No. - N° de bande	0 0 6 1 4		
SECTION 2	Project Name - Titre du projet	Water-Works Upgrading			Project Number - N° de projet	51109	S.C.R. - R.C.B.	Y - A	M - D - J	
	Present Use of Form Utilisation actuelle de la formule	<input type="checkbox"/> Project Identification Identification du projet			<input checked="" type="checkbox"/> Project Change Modification de projet			<input type="checkbox"/> Annual Implementation App. App. annuelle d'exécution		
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	Project Cost/Funding Coût/Financement du projet				Expenditure Plan Plan des dépenses					
SECTION 6	Estimate Class Cat. de provisions	A	Constant Constante	<input type="checkbox"/>	Year Année	P.V. A.P.	DIAND MAIN \$'000	Band & Other Bande & Autres \$'000	Phases Étapes	
	Date		Current Courants	<input checked="" type="checkbox"/>	1982/83	15	25		3	
SECTION 7	Funding Source Source de fonds	Capital \$'000 Immobilisations	650	Annual Annuel	1983/84	15	200		4	
	DIAND - MAIN Bande - Bande			P.Y. - A.P.	1984/85	15	425		4 & 5	
SECTION 8	Total	650	3		Total		650			
	Project Recommendation/Project Change Approval Recommandation du projet/Approbation de modification									
SECTION 9	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.	Date	83-06-27	Regional Director-General - Directeur général régional	Date	June 4 1983				
	Program Manager - Gestionnaire du programme	Date	83/6/24	Director, Capital Mgt. (H.Q.) - Directeur, Gestion des invest. (A.G.)	Date					
SECTION 10	Regional Director of E. & A. - Directeur régional de E. & A.	Date	83/6/27	Assistant Deputy Minister - Sous-ministre adjoint	Date					
	Project Manager - Gestionnaire chargé de projet	Date	June 27/83							
SECTION 11	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan. Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.									
	Director of Finance - Directeur des services financiers Date: 6/29/83									
SECTION 12	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to FD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document; confirmation is given that the expenditure level has been mutually agreed by the project manager and myself.									
	AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES: En vertu de DF-5, le gestionnaire de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses.									
SECTION 13	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.									
	Project Manager - Gestionnaire de projet Date: Aug 17/83									

#209-280 Victoria St.
Prince George, B.C.
V2L 4X3

August 24th, 1983

DAVID CLEGG
DIRECTOR, ENGINEERING & ARCHITECTURE
BRITISH COLUMBIA REGION

Attention: T.K. Thien
Project Engineer

E4380-614 (TCC 1)

E4380-614

Re: P.I.C.D. PROJECT #51109
Necoslie Waterworks Upgrading

As per your letter dated August 15th, 1983, please find attached
a copy of the abovenoted P.I.C.D. for your records; with Section
7 signed by the District of Finance.

GERI DERRICK
BAND OPERATIONS CLERK
PRINCE GEORGE DISTRICT

Att.

c.c. Project File

Vancouver, B. C.

41622

AUG -5

V7X 1G1
AUG 27

July 29, 1983

Manager
Prince George District

Attention: (1) Mr. J. Goldie
(2) Mr. A. Miller

Your file Votre référence

Our file Notre référence E4380-614 (TCC.1)


Re: Project #51109
Necoslie Waterworks Upgrading

Further to my discussion with Messrs J. Goldie and A. Miller on July 28, 1983, at Tache I.R., I would like to confirm that the total cost to complete a portion of the Necoslie Water Distribution System is \$247,000. The cost breakdown of this estimated amount is as follows:

- a) Construction cost based on apparent low bid = \$210,825
- b) Engineering services including preconstruction services, contract management services and post construction services = \$ 36,459
- \$247,284
- Say = \$247,000

As the approved current budget for this project is only \$200,000, you concurred that District will make available an additional amount of \$47,000 to increase the revised budget to \$247,000.

Urban System Ltd. the consulting firm retained by the Band Council is presently reviewing the tenders. It is envisaged a contract will be awarded to the low bidder very shortly. Revised PICD to reflect the change in Expenditure Plan is enclosed herewith for signatures.


T.K. Thien
Project Officer

Encl.

cc: (1) Necoslie Band Council
(2) Urban System Ltd/Prince George
(3) Project file.

PROJECT IDENTIFICATION AND CHANGE DOCUMENT
DOCUMENT D'IDENTIFICATION ET DE MODIFICATION DU PROJET

Communiqué en vertu de la Loi sur l'accès à l'information

SECTION 1	Program / Programme	2	Region - Région		District	Prince George	RCM - GCR	9 8 5	CCM	8 9
	Reserve - Réserve	Necoslie I.R. #1			Band - Bande	Necoslie	Band No. - N° de bande	0 0 6 1 4		
	Project Name - Titre du projet	Water-Works Upgrading			Project Number - N° de projet	51109	B.C.R. - R.C.B.	Y - A	M	D - J
	Present Use of Form / Utilisation actuelle de la formule	<input type="checkbox"/> Project Identification / Identification du projet <input checked="" type="checkbox"/> Project Change / Modification de projet <input type="checkbox"/> Annual Implementation App. / App. annuelle d'exécution								
SECTION 2	Administered By / Administré par	<input checked="" type="checkbox"/> Band / Bande <input type="checkbox"/> District <input type="checkbox"/> Region / Région								
	Project Scope - Portée du projet	Design and construction of improvement of water-works to upgrade the existing water system at Necoslie I.R. #1. - See attached Capital Project Submission for detailed project scope.								
SECTION 3	Project Substantiation - Justification du projet	See attached Capital Project Submission.								
	Special Factors - Facteurs particuliers	1. Final design of water-works is completed, and ready for tender. 2. Construction to be phased over two fiscal years commencing 1983/84. 3. Tenders for portion of the water-works closed on July 28/83, and the low bid is \$210,825. 4. Revision in Expenditures Plan only.								
SECTION 4	Re: Project Change (\$'000) / Objet: Modification	650			Present Approval - Déjà approuvés	Increase Requested - Augmentation demandée		Expenditure to date - Fonds dépensés à ce jour		
	Project Cost/Funding / Coût/Financement du projet	Estimate Class / Cat. de prévisions			Constant Constants	Year / Année	P.V. / A.P.	DIAND MAIN	Band & Other / Bande & Autres	Phases / Étapes
SECTION 5	Date	Current / Courants	1982/83	15	25		3	1	Identification	
	Funding Source / Source de fonds	Capital \$'000 / Immobilisations	Annual O & M / Annuels E & M	1983/84	15	247	4	2	Planning / Planification	
	DIAND - MAIN	650	3	1984/85	15	378	4&5	3	Design / Conception	
	Band - Bande							4	Construction	
									5	Evaluation
	Total	650	3	Total		650				
SECTION 6	Project Recommendation/Project Change Approval / Recommandation du projet/Approbation de modification									
	Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp.	Date	5/8/83	Regional Director General - Directeur général régional	Date	Aug 12 1983				
	Program Manager - Gestionnaire du programme	Date		Director, Capital Mgt. (H.Q.) - Directeur, Gestion des invest. (A.C.)	Date					
	Regional Director of E & A - Directeur régional de G. et A.	Date	28/6/83	Assistant Deputy Minister - Sous-ministre adjoint	Date					
SECTION 7	Project Mgr. / Gestionnaire/Chargé de projet	Date	Aug 29/83							
	I certify that the necessary project authorities have been granted and that the expenditure plan is in accordance with the approved capital plan. Je certifie que les autorisations nécessaires ont été accordées et que le plan des dépenses est conforme au plan d'immobilisations approuvé.									
SECTION 7	PROJECT AUTHORIZATION/EXPENDITURE AUTHORIZATION CERTIFICATE: Pursuant to PD-5, authority is given to the undersigned Project Manager to implement this project and to expend funds from my Responsibility Center's Budget in accordance with the condition of this document, confirmation is given that the expenditure level has been mutually agreed by the project manager and myself. AUTORISATION DE PROJET/CERTIFICAT D'AUTORISATION DES DÉPENSES: En vertu de PD-5, le gestionnaire de projet soussigné est autorisé à exécuter ce projet et à dépenser des fonds du budget de mon centre de responsabilité conformément aux termes du présent document. Le gestionnaire du projet et moi-même avons convenu du plafond des dépenses.									
	A0430857_248-001085 Responsibility Ctr. Mgr. - Gestionnaire du ctr. de resp. / Project Manager - Gestionnaire de projet									

Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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42391

Vancouver, B. C.
V7Y 1C1

August 15, 1983

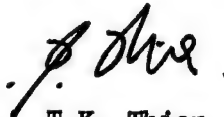
Manager
Prince George District

Your file Votre référence

Our file Notre référence E4380-614 (TCC 1)

Re: Project #51109
Necoslie Waterworks Upgrading

Will you please request your Director of Finance and Responsibility
Centre Manager to sign section 7 of the attached PICD and return
the signed PICD to me at your earliest convenience.



T.K. Thien
Project Officer

cc: Project file.

42762

AUG 25 1983

Vancouver, B. C.
V7Y 1C1

August 22, 1983

Manager
Prince George District

Attention: 1) Mr. J. Goldie
2) Mr. A. Miller

Your file Votre référence

Our file Notre référence E4380-614 (TCC.1)

Re: Project #51109
Necoslie Waterworks Upgrading

Further to my letter of July 29, 1983, the Necoslie Band Council has entered into a contract with Grizzly Contracting Ltd. for the construction of Phase I of the above noted project.

Construction of the waterworks is in progress and it is estimated that by August 31, 1983, the Contract Progress Claim for work done and material on site will be above \$100,000.

To date the Band Council has an advance of \$50,000 under the Contribution Arrangement. I am recommending for a further release of funds in the amount of \$50,000 to enable the Band Council to meet the anticipated first Contract Progress Claim.

The form for Further Release of Funds is enclosed herewith.

Encl.

T.K. Thien
T.K. Thien
Project Officer

cc: 1. Necoslie Band Council
2. Project file.

Jeff
please initiate
25/08/83

*Geri please process
release form.*

Canada

completed
A0430857_250-001087 33 *JD*

Jeff

Aug 19/83

JACK SCOUTEN
HEAD, FINANCE & ADMINISTRATION
PRINCE GEORGE DISTRICT

Your file Votre référence

Our file Notre référence

E4380-614

Re: NESCOLIE Band

Capital Project # 51109

Title: NECOSLIE WATERWORKS UPGRADING.

Amount: \$ 247,000.

I attach the following documents: 1) B.C.R. # 985/614-15 (83-84)
2) Cash Flow and a 3) P.I.C.D.

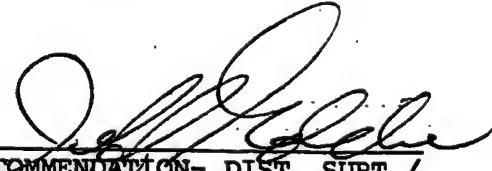
The following requirements have been met:

For An Advance:

- ☐ Technical Terms & Conditions have been agreed to by the Band.
- ☐ The scope of the work proposed is technically feasible.
- ☐ The cost estimate is appropriate.
- ☐ The Cash Flow is reasonable.
- ☐ An initial cash advance of \$ _____ is required to meet three months' cash requirements for the Capital Project.

For Further Release of Funds:

- ☒ 1982-83 Audit has been received and reviewed.
- ☐ Certificate of Progress & Expenditure Report attached. (Band)
- ☐ Project Progress & Expenditure Report attached. (Project Officer)
- ☒ Terms & Conditions have been met, and the Band has performed the specified service.
- ☐ Release further funds in the amount of \$ 50,000 for the above Capital Project.


RECOMMENDATION- DIST. SUPT./
BAND OPERATIONS


DEPARTMENT PROJECT OFFICER
UNDER SECTION 27 OF THE F.A.A.

Canada

A0430857_251-001088



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Original in CIDM / Document # 2362246
M. CASEY 4380-614

NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0

Telephone (250) 996 - 7171

Fax (250) 996 - 8010

June 10, 2013

Indian and Northern Affairs Canada

600 1138 Melville Street

Vancouver, B.C.

V6E 4S3

Attention: Milton Casey, Capital Management Officer

**Reference: Williams Prairie Meadow I.R. #1 – Water Pumphouse
Chlorination Upgrade
Environmental Assessment - Special Places**

We wish to advise at this time that there are no effects to the Special Places as noted on the Environmental Assessment Scoping Report that would be affected by the above noted project.

We trust this is to your satisfaction. If you have any questions, please call.

Yours truly,

A handwritten signature in black ink, appearing to read "Fred Sam".

Fred Sam,
Chief



Health
Canada

Santé
Canada

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to Information Act
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Loi sur l'accès à
l'information

A JOSEPH

E 4380-614

RPS

Environmental Health Services
First Nations and Inuit Health
220-177 Victoria Street
Prince George, BC
V2L 5R8

Original in CTDM
Document # 150830

Your file Votre référence

Our file Notre référence

May 29, 2002

150-5-12

Nak'azdli

Chief Leonard Thomas
Nak'azdli Band
Box 1329
Fort St. James, B.C.
VOJ 1PO

'02 JUN 10 AM 11:36

Dear Leonard,

The following samples, collected from Nak'azdli, were tested in our Prince George lab.
Results are as follows:

DATE COLLECTED: 21st May 2002 COLLECTED BY: Clara Jack

Sample Location/Source	General Bacteria	Total Coliform	Fecal Coliform
Nak'azdli Health #284, Kitchen Tap, Community System	0	0	0
Wayne & Sara Sam #170, Water Cooler	0	0	0
Home & Comm.Care #38, Kitchen Tap	0	0	0
Wayne & Sara Sam, #170 Kitchen Tap	0	4	0
Melody Prince #226, Kitchen Tap	0	0	0
K & B Sam #88, Water Cooler	2	0	0
K & B Sam #88, Kitchen Tap	52	0	0

REMARKS Samples are satisfactory.

Canada

A0430858_2-001090



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et du Nord Canada
www.ainc.gc.ca

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January 16, 2002

Your file - Votre référence

Nak'azdli First Nation
P.O. box 1329
FORT ST. JAMES, BC
V0J 1P0

Our file - Notre référence

E4380-614

Chief and Council,

Attached is your copy of the report entitled *Assessment Studies Water and Wastewater Systems and Associated Water Management Practices*. You may recall that an "independent" consultant, Associated Engineering (B.C.) LTD., visited your community this past fall 2001 to assess the community water and wastewater facilities and associated operation & maintenance (O&M) practices. The consultant spent the day with your maintenance staff and perhaps with your administration staff, filling out a questionnaire and then visiting the facilities.

This assessment was completed as part of a **Facilities Assessment Program** which is a ministerial initiative implemented nationally. Through the program, a database has been developed which inventories all facilities across Canada. From the assessments, a five year action plan for improving the facilities and more importantly for increasing the level of operation & maintenance will be developed.

The use of an independent consultant was intended to create an unbiased assessment of the **risk to health** in your community from the existing infrastructure and the associated O&M practices of your maintenance staff.

The attached assessment study identifies your water system as having a medium risk to the health of your community as a result of one or more criteria that were assessed which included, water source, system design, facility operation, data reporting, and operator(s) training.

I strongly recommend that you review the attached assessment, discuss it with your administrative and maintenance staff and take immediate actions to address the risks identified.

.../2

Canada

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Printed on recycled paper - Imprimé sur papier recyclé

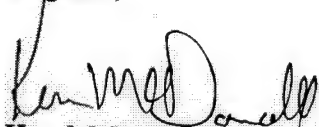
- 2 -

The recommendations in the report should be considered and incorporated into your planning process where applicable which could include an update to the physical development plan (PDP) for your community.

You should also seek independent advice on this matter to ensure that you understand the roles and responsibilities of the Chief and Council, the Band employees, and your community in dealing with these items.

You will be contacted to confirm you received this report. If you have any questions and/or comments after reviewing the facility assessment study, please call your Capital Specialist.

Regards,



Ken McDonald

Manager, Special Services Unit

cc: Ian Corbin, INAC, Director of Housing and Infrastructure
Brian Rundle, INAC, Funding Services Officer
Frank Gelinas, INAC, Capital Specialist
Paul Broda, Environmental Health Officer

Adrian Joseph, RPS for INAC
NL



E4380-614

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NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
Telephone (250) 996-7171
Fax (250) 996-8010

September 10, 2001

Original In CIDM

Document # 105600
9-18-01/CD

'01 SEP 17 AM 10:25

Mr Bill Zaharoff, Director
Funding Services Directorate
Indian & Northern Affairs Canada
600 - 1138 Melville Street
Vancouver, BC V6E 4S3

Dear Bill,

Re: Community Water & Wastewater Assessments

Nak'azdli Band would like to participate in the assessment of our water and wastewater systems as outlined in your letter of August 28th, 2001.

I will be the contact person for this project and can be contacted at the above numbers or by e-mail at princea@nakazdli.ca

Thank you.

Sincerely,
NAK'AZDLI BAND COUNCIL

Aileen Prince
Capital, Housing & Lands administrator

CC: Chief Leonard Thomas
Norman Thomas, Village Maintenance Supervisor



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NAK'AZDLI BAND COUNCIL

P.O. Box 1329, Fort St. James, B.C. V0J 1P0
Telephone (250) 996-7171
Fax (250) 996-8010

Mr. Frank Gelinas
Indian & Northern Affairs Canada
340 - 1550 Alberni Street
Vancouver, BC
V6G 3C5

Re: Project #3538 - Community Drainage

Dear Frank,

Julian Contracting is now completing the final work on Project # 3538. We expect to be requesting the CSTC Technical Services Engineer to do a final inspection and prepare the completion report by July 7, 2000.

I have requested an encumbrance check for our 2000/01 Housing. Could you check on the status of this report for me? I would appreciate it.

I am now the contact person for this project although I am not sure if there are other capital projects, which are outstanding.

Please feel free to contact me at the numbers listed above, if you have any questions regarding this matter.

Thank you,

Aileen Prince
Housing and Lands Administrator

*copy on
project file
May 21/2000*

3498 00 MAY 19 11:21



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Communiqué en vertu de la

Loi sur l'accès à

l'information 224 West 8th Avenue
Vancouver, B.C. V5Y 1N5

Tel: (604) 873-9262

Fax: (604) 873-2353

INVOICE

Invoice number 7901

May 2, 2000

Page number 1

I. NAK'AZDLI WATER STUDY

SEABIRD ISLAND BAND
P.O. BOX 650
AGASSIZ, B.C.
V0M 1A0

ATTENTION: DARYL MCNEIL

Original in CIDM

Document #

CALL-UP # 50-1998-17

PROJECT 1407-04

FOR PROFESSIONAL SERVICES IN CONNECTION WITH MEETING WITH A. JOSEPH
AND PRODUCING FINAL DRAFT OF REPORT ADDRESSING WATER SUPPLY COST
SHARING REPORT BETWEEN THE NICOSLIE I.R. NO. 1 AND FORT ST. JAMES
FROM APRIL 1, 2000 TO APRIL 30, 2000

CC: G. GRUNAU, PWC

LABOUR

Hours	Rate	Amount
9.50	135.00	1,282.50
7.75	92.00	713.00
3.25	40.00	130.00

DISBURSEMENTS

	Amount
TRAVEL	
MILEAGE	1.00
MISCELLANEOUS EXPENSES	3.15
IN-HOUSE COPIES	6.42
	7.10

TOTAL THIS INVOICE 2,143.17

MEMORANDUM



E4380-614 *Adrian Joseph*
Released under the Access
to Information Act
224 WEST 8TH AVENUE
VANCOUVER, BRITISH COLUMBIA
V5Y 1N5
TELEPHONE: (604) 873-9262
FACSIMILE: (604) 873-2353

C.N.

To: PUBLIC WORKS CANADA
1550 ALBERNI ST., VANCOUVER

DATE: MAY 23, 2000
FILE: 1407.04.1

ATTENTION: ADRIAN JOSEPH
REFERENCE: NECOSLIE FINAL REPORT
FROM: SAM TURK

Enclosed please find ten copies of our report entitled "Review Of Options For Necoslie I.R. No.1 Based On Nak'azdli Water Study".

Regards

h:1407:04:0memo3

3800 00 MAY 24 11:53

**INDIAN AND
NORTHERN AFFAIRS CANADA**

**REVIEW OF OPTIONS
FOR NECOSLIE I. R. NO. 1
BASED ON
NAK'AZDLI WATER STUDY**

 **NovaTec Consultants Inc.**
Environmental Engineers and Scientists

May 2000

Project : 1407.04i

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Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

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APPENDIX A BACTERIOLOGICAL WATER QUALITY DATA

Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

EXECUTIVE SUMMARY

The Necoslie Band shares a water system with the District of Fort St. James. The artesian well and reservoir serving both communities are located in the District. A Water Feasibility Study for both communities was carried out by L&M Engineering in 1997. The present study expands on certain aspects of that report.

The 1997 study evaluated options based on a 15 year horizon. The present study determined that there is little difference in the size and cost of a water supply system between one based on 10 years versus one based on a 15 year horizon.

The existing reservoir is slightly undersized to serve the present needs of the Necoslie I.R. No.1. A new reservoir will have to be added to the system to meet future needs. Short term measures to improve the Band's water supply and fire protection include installation of a larger well pump.

The fire flow criteria developed by L&M for the District are believed to be too stringent and the District is urged to reassess the criteria. For purposes of this report a less stringent criteria was adopted resulting in a 50% reduction in additional storage requirements. Consideration should be given to reassessing the cost of the reservoir as it may have been underestimated. Any significant change in the cost of the reservoir may call for a reassessment of some of the conclusions of this report.

A cost comparison between developing separate water systems for each community versus expanding and upgrading the existing combined system indicates that the combined system, at about \$1,933,000, is \$1,218,000 less costly than a separate system for each community. The costs of the combined system include a new 600,000 Igal reservoir, a standby well, an upgraded well pump and low level chlorination. They exclude the cost of upgrading the FSJ distribution system (\$740,000), which would be the responsibility of the District. Reassessing fire flows would probably reduce the upgrading costs.

The least costly location for a new reservoir near the existing one, while the most appropriate and least costly location for a standby well is adjacent to the existing one. These locations were used in developing the cost estimate for the combined system.

Three cost sharing formulas were evaluated for a combined system:

- 1) Based on population projections (31/69 split between Band and District)
- 2) Based on projected water demand (40/60 split between Band and District)
- 3) Based on a 50/50 split between the two communities

The most equitable option is one based on water demand and is recommended for implementation. Metering of water usage is recommended, however details of an implementation plan are beyond the scope of this study.

Based on two water sampling events, the water quality is above the limit for turbidity and possibly also for iron. Iron is an aesthetic parameter, while turbidity is a combination of health and aesthetics. The capital cost of a combined system treatment plant to remove both turbidity and iron is estimated at about \$1,050,000 versus \$600,000 for one serving only the Band.

A one year sampling program of the well water and distribution system is recommended to confirm the need for iron removal and for disinfection.

In-situ field testing should be carried out at the well to determine the effectiveness of selected treatment methods for turbidity and iron removal (either turbidity alone or jointly with iron).

Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

1 INTRODUCTION

NovaTec Consultants Inc. was retained by Public Works Canada to review options for the Necoslie I.R. No. 1 based on the findings of the report by L&M Engineering Ltd. (L&M) entitled "Necoslie I.R. No. 1 and District of Fort St. James (FSJ) Final Water Feasibility Study", dated September, 1997.

The Terms of Reference for the NovaTec study were as follows:

1. Review the Nak'azdli water study report.
2. Determine the most economical method of solving the Band's water problems.
3. Determine whether a shared water system is the most economical means to solve the water problems of both communities.
4. Indicate cost of a joint system.
5. Indicate cost of separate systems.
6. Suggest a cost sharing formula for the Band and FSJ.
7. It should be noted that fire flows in the District of FSJ are inadequate.
8. Is a new reservoir necessary for future water demands.
9. A 10 year design horizon should be considered with provision for expansion for a further 10 years as per the INAC Design Guidelines for Water Systems.
10. If the District of FSJ cannot afford to participate in cost sharing then what work should be undertaken to improve the Bands water supply and fire protection.
11. Consider that harmony between the Band and the District is a desired aim. The sewage system from FSJ appears to discharge on Band lands.

This report addresses the above items.

Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

2 IMPACT OF USING 10 YEAR DESIGN HORIZON

L&M Engineering Limited (L&M) used a 15 year design horizon. The impact of sizing the various elements of the water supply and distribution system for either a 10 or 20 year design horizon, as it relates to the Necoslie I.R. No. 1, are as follows:

	<u>10 Year</u>	<u>15 Year</u>	<u>20 Year</u>
Water distribution system	none	base case	none
Reservoir size	-6%	base case	+5%
Water supply demand	-12%	base case	+10%

Based on the above, there is minimal difference between a 10 and 15 year design horizon for the Necoslie I.R. and even less of a difference as it relates to cost since cost does not change linearly with capacity.

Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

3 SATISFYING EXISTING FIRE FLOWS

A number of scenarios were modelled by L&M. The most relevant is the modelling carried out as per the instructions of Public Works Canada. This assumed:

- no supply flow from the well (i.e., power failure)
- water level in reservoir at 0.3 m above reservoir floor
- existing network as is

The modelling indicated that the existing system can meet the fire flow demands of the Necoslie I.R. but not those of Fort St. James (FSJ).

Modelling carried out with the supply pump on indicated that the existing system cannot fully meet the fire demand of the Necoslie I.R. and that it has reduced ability to meet fire flows in Fort St. James. We fail to fully understand the explanation given for this anomaly (i.e., that the pressure of the pump reduces the flow from the reservoir). However, L&M do not advocate shutting off the well pump during a fire (page 20 of report). We believe that this anomaly is far less significant than the basic fire flow criteria adopted by L&M for FSJ and discussed in Section 9.3 of this report.

It would appear that existing fire flows can be met for the Necoslie I.R. subject to the caveat in Section 7 of this report.

Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

4 SATISFYING FUTURE FIRE FLOWS OF NECOSLIE I.R. ONLY

All modelling carried out by L&M of future fire demand are based on having the well supply pump on.

A review of Table 3.6 of the L&M report suggests that the future fire demand within the Necoslie I.R. is comparable to present fire demand (1500 Igpm vs. 1300 Igpm). The increased future water use of both communities, however, renders the existing reservoir too small to provide the fire storage volume that would meet the fire demand of the Necoslie I.R.

Public Works and Government Services Canada
Review of Options Based on Nak'azdli Water Study

5 COST OF JOINT SYSTEM

L&M developed capital costs for several configurations relating to water source and reservoir locations. They ranged in cost from \$853,000 (new supply pump at existing well and second reservoir near existing reservoir site, considered in this report as basic system) to \$1,340,000 (two well sites and two reservoir sites). These costs exclude upgrading of the distribution system in Fort St. James for fire fighting purposes (about \$740,000 based on L&M's estimate). The aforementioned costs include 20% contingencies, plus 10% engineering and exclude GST.

All capital costs presented in this report will follow the same format (i.e., include 20% contingency plus 10% engineering).

We note that the proposed configurations exclude the following:

- Provision of low level chlorination for disinfection purposes in distribution system (if need confirmed based on bacteriological sampling within the distribution system)
- Possible water treatment, if required

Addition of low level chlorination and /or water treatment would further favour a single well site (i.e., two wells adjacent to each other, each capable of supplying maximum day demand). Per our estimate, a low level chlorination system would add about \$46,000 to the least cost option (basic system).

The joint system option taken forward in this report consists of two adjacent wells (one as standby) and two reservoirs near each other. This represents the least cost option that meets the needs of both communities and complies with INAC Guidelines. The provision of two wells was recommended by L&M and it complies with INAC Guidelines. NovaTec is of the opinion that the standby well should be located adjacent to the existing well (see explanation in Section 9.2).

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The capital cost of a joint system that incorporates

- new standby well adjacent to existing well
- new 600,000 lgal reservoir near the existing reservoir (see explanation for size in Section 9.3)
- upgraded well pump
- low level chlorination

is estimated by NovaTec at \$1,193,000 based partially on extrapolation of costs from the L&M report (see Table 1).

The need for and cost of water treatment is discussed in Chapter 12.

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6 COST OF SEPARATE SYSTEMS

The cost developed by L&M for a separate system to serve the Necoslie I.R. is \$1,080,000. This includes a separate feed line to the reservoir (\$218,000). While a dedicated feed line for groundwater supplies of good sanitary quality is recommended but not required by INAC Guidelines, we agree with L&M for including it in the estimate of the Band only option. For purposes of this report, a dedicated feed line is included for this option. To the above total must be added development of a second standby well (as per INAC Guidelines) at an estimated cost of \$238,000 (assuming it is adjacent to the first well) and a chlorination facility at \$46,000. This will bring the total cost to around \$1,364,000.

The cost developed by L&M for a separate system to serve Fort St. James is \$790,000. This excludes a standby well and low level chlorination. For purposes of this report we have assumed that a second standby well is needed (it is becoming a standard in many jurisdictions) and that it will be located adjacent to the existing one (at a cost of \$211,000 as interpolated from L&M estimate). We have also added \$46,000 for possible low level chlorination, bringing the total cost to \$1,047,000. To this must be added the cost of upgrading the distribution system for fire fighting purposes (another \$740,000 as per L&M estimate), bringing the total cost to \$1,787,000. Unlike the Band only option, we have not included the cost of a separate feed line to the reservoir as it is not required with groundwater sources of good sanitary quality, as presumably this source is.

A summary of capital costs for the two separate systems is presented in Table 1.

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7 NEED FOR A NEW RESERVOIR TO MEET CURRENT NEEDS

We have assessed the need for a new reservoir (based on INAC Guidelines) on the premise that it need only meet the fire demand of the Necoslie I.R. It must, however, meet the present equalization and emergency storage needs of both communities since the use of the reservoir is shared between the two communities. The present demand, based on interpolation of information presented in L&M's report, is calculated as follows:

- Equalization storage of 192,960 Igal (57,600 Igal for the Necoslie I.R. and 135,600 Igal for Fort St. James)
- Fire flow for the Necoslie I.R. or 156,000 Igal (1,300 Igpm for 2 hours)
- Emergency storage of 87,300 Igal

The total storage volume needed to meet existing demand is calculated at 436,260 Igal. This exceeds the capacity of the existing reservoir (400,000 Igal).

From the above, it appears that the existing reservoir is slightly undersized to serve the present needs of both communities (including fire fighting needs of the Necoslie I.R., but excluding the fire fighting needs of Fort St. James).

8 SHORT TERM MEASURES TO IMPROVE THE BAND'S WATER SUPPLY & FIRE PROTECTION

Assuming that the District of Fort St. James cannot afford to participate in a cost sharing program, the short term measures available to the Band to improve its water supply and fire protection are as follows:

- Distribution system: No improvements required.
- Water Supply: The existing well pump cannot supply the maximum day demand of the community (450 Igpm versus estimated maximum day demand of 536 Igpm in Year 2000). Thus a new pump is required.
- Reservoir: As per Chapter 7, there is an existing shortfall of 36,260 Igal in existing capacity. To meet the Band's 10 year growth demand, an additional 85,000 Igal of capacity is needed. Thus a total additional capacity of 121,260 Igal would be called for. It should be noted that this additional volume cannot be allocated to the Band, as the reservoir and distribution system is shared between the two communities and will thus also be available for use by the District.

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9 CONSIDERATIONS IN DEVELOPING A COST SHARING FORMULA

The water system consists of three components:

- Distribution system
- Water supply well(s) and pump(s)
- Reservoir(s)

The sizing of the distribution system and reservoir are largely based on fire flow which differ considerably between the two communities. The well water supply size is more closely linked to actual demand in each community.

Another consideration in developing a cost sharing formula is the status of any existing agreements between the two communities. For example, has the Band contributed to the cost of the existing water supply system. If not, were there offsets negotiated between the two parties. For example, did the Band pay for the cost of the wastewater treatment facility in exchange for accessing the water supply.

For purposes of this evaluation, we have assumed that any capital costs incurred to date by either party do not form part of the capital cost sharing arrangements discussed in this report.

A number of cost sharing formulas are possible. The ones that reflect normal practices in other jurisdictions are usually based upon one of the following criteria:

- 1) Projected population of each community.
- 2) Projected water demand of each community.

A third option that will be considered in this report is an arbitrary 50/50 split between the two communities.

A brief review of the three components of the water distribution system as they may impact on selecting each of the above cost sharing formulas follows.

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9.1 DISTRIBUTION SYSTEM

The District of Fort St. James needs to upgrade sections of its distribution system to meet fire flow demand while the Necoslie I.R. does not require to carry out any upgrading. Thus, the upgrading of the distribution system in the District is of no benefit to the Band. No cost sharing is proposed for this component.

9.2 WATER SUPPLY

The water supply has to be sized to handle maximum day demand.

The new standby well should be located at the optimum location regardless of municipal boundaries. Based on the study by Piteau & Associates, the bulk of the aquifer lies outside the Reserve and a logical and cost effective location for the new standby well is adjacent to the existing well.

Furthermore, there is no certainty that a well drilled on the Reserve can supply the maximum day water demand, unlike the artesian conditions that prevail at the existing well location.

Installation of a dedicated line to the reservoir and/or installing a new well at a distance from the existing well will increase costs further and has not been included in the cost estimate.

9.3 RESERVOIR

The combined storage needs for both communities is estimated by L&M at 1,556,000 Igal, of which 1,134,000 Igal (73% of the total storage needs) is accounted for by the fire flow demand in Fort St. James.

The large storage needs for the District are a result of the high fire flow criteria adopted for the Fort St. James Hotel (i.e., 4,200 Igpm for 4.5 hours). A re-evaluation of this criteria is called for in conjunction with an assessment of the fire fighting capacity of the District.

Adoption of less stringent fire flow criteria (i.e. 3,000 Igpm for 3 hours) could reduce the fire storage needs of the District by 50% thereby bringing the storage needs of the District down from

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four times to about 2.5 times that of the Necoslie I.R. This would also reduce the costs of upgrading the water distribution system for FSJ.

Assuming that the fire storage needs of the District can be reduced by about 50%, a new 600,000 Igal reservoir would be needed (versus the 1,153,000 Igal currently proposed). The least costly location for such a reservoir is near the existing reservoir and its cost would be slightly less than the \$792,000 budgeted by L&M for the larger 1,153,000 Igal reservoir (about \$740,000 for a 600,000 Igal reservoir). The apparent small saving in capital cost associated with reducing the reservoir size in half reflects our belief that the capital cost presented by L&M for the larger reservoir may have been underestimated.

As stated earlier, for purposes of this report we have assumed that the second reservoir will be located at the same elevation near the existing one. We have also assumed a right of way would be obtained for piping to connect the two reservoirs. If that is not feasible, the two reservoirs would be independent of each other and the new reservoir would be connected separately to the distribution.

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10 REVIEW OF THREE COST SHARING FORMULAS

The following three cost sharing formulas are reviewed in this section:

1. Cost sharing based on population
2. Cost sharing based on water demand
3. Cost sharing based on an even split of costs between the two communities

Table 1 summarizes the cost breakdown for each major component and for each community for all three formulas.

In all three scenarios we have assumed that the fire storage needs for FSJ are reduced by 50% over those proposed in the L&M report (i.e., 3,000 Igpm for 3 hours instead of 4,200 Igpm for 4.5 hours).

As stated in Section 9.1, the Necoslie Band would not contribute to the cost of upgrading sections of the distribution system in Fort St. James and all formulas are based on this exclusion.

10.1 COST SHARING BASED ON POPULATION

Based on Table 2.1 of the report by L&M Engineering, the 15 year growth projections for both communities (to the year 2010) are as follows:

-	Fort St. James	2,883
-	Necoslie Band	1,272

Thus, the Necoslie Band population will represent about 31% of the total population in the Year 2015 (the percentage is similar for the Year 2010). Under this formula the Necoslie Band share of the cost would be 31%.

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10.2 COST SHARING BASED ON WATER DEMAND

The Band's contribution to overall water demand in 1995 was estimated at 27%. According to Table 3.11B of the report by L&M Engineering, the Necoslie Band maximum day water demand will reach 1.92 ML/d while that of Fort St. James will reach 2.91 ML/d by the Year 2015. Thus, the Band's contribution to the total water demand will equal about 39.4% (rounded up to 40%) of total water demand.

According to information provided by L&M, this disproportionate increase in water demand by the Band is almost entirely caused by an anticipated significant increase in commercial activity on Reserve land. The average commercial type water demand is expected to rise from virtually nil in 1995 to about 0.65 ML/d by the Year 2015, at which time commercial type activity will account for about 75% of the total water demand on the Reserve.

The increase in the Band's share of total water demand is based on the Physical Development Plan with the provision for 14 ha zoned commercial or commercial industrial. In contrast, commercial development in Fort St. James allows for 21 hectares.

Mr. Rick Senger, P.Eng., of the Carrier Sekani Tribal Council, confirmed that the Band is actively attempting to develop its commercial land base and that the allowance of 14 hectares is reasonable.

From the aforementioned, it would appear that the assumption of an increase in the Necoslie Band's share of the water demand to 40% of the total demand by the Year 2015 reflects a reasonable expectation.

This cost sharing formula under this scenario is thus based on a 40 to 60 split between the Necoslie Reserve and the District.

10.3 EQUAL COST SHARING

This formula assumes a 50/50 split of capital costs and assumes that other considerations between the two parties (e.g., a more favourable formula for the Band in terms of annual operating costs) would lead to such a split.

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10.4 DISCUSSION

Although no water consumption records exist for the Necoslie Reserve, their share of the current water demand is probably closer to the population split formula (i.e. about 30% of total demand). Splitting of costs according to the future water demand assumes that major commercial development will occur on the Reserve thereby boosting the Reserve's share by about 30% to 40% of the total water demand. This expectation appears to be reasonable.

The 50/50 split is the least realistic of the three scenarios and can only be considered if some form of consideration is given to the Band in other matters.

Of the three formulas evaluated, the one based on water demand appears to be the most equitable to both parties. Adoption of this option would require a method of implementation which would involve metering both communities. Details of such an implementation plan is beyond the scope of this study.

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11 MOST ECONOMICAL SOLUTION

Based on the findings of this report (see Table 1), the most economical solution for both the Band and the District is to participate in a joint system with the District of Fort St. James.

This conclusion is based on the assumption that The District of FSJ will reassess and reduce its fire-flow criteria as stated in Section 9.3 of this report.

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12 WATER QUALITY & TREATMENT

12.1 WATER QUALITY

During the meeting of January 28, 1999 at Nak'azdli Community Hall, the Band voiced dissatisfaction with the water quality, particularly its colour and odour. It was agreed during the meeting that the Band's water main flushing program should be co-ordinated with the District's flushing program to ensure that the sediments are blown off and not moved into the "dead ends" of the grid; that samples should be taken at "downstream locations" with least circulation before flushing and after flushing; and that sampling should be representative of both communities. Additional blow-off piping should be installed if necessary.

After the meeting, the District forwarded to NovaTec analytical results for a well water sample collected at the well house on February 3, 1998. The following exceedences were noted:

- The turbidity of the water is 6 NTU which exceeds maximum acceptable concentration of 1 NTU, set by the Guidelines for Canadian Drinking Water Quality.
- The iron concentration of the well water is 0.37 mg/L, which is slightly above the limit of 0.3 mg/L set by the Guidelines For Canadian Drinking Water Quality.

An earlier sample collected on February 22, 1995 showed turbidity levels of 7.2 NTU and an iron concentration of 0.28 mg/L which is lower than the limit of 0.3 mg/L (Appendix E of L&M report).

Turbidities of up to 5 NTU are allowed, if it can be shown that such high turbidities do not interfere with disinfection. The well water is not chlorinated.

In an effort to determine the need for disinfection because of contamination within the distribution system, NovaTec solicited drinking water bacteriological reports from both the District and from Health Canada in Prince George. The information provided is presented in Appendix A. The Health Canada data also includes some chemical water analyses.

The District indicated that sampling to-date shows no evidence of bacteriological contamination in the distribution system. The locations sampled are the well house, Health Unit tap and chamber of commerce tap.

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The data from Health Canada was collected within Necoslie and includes ten homes connected to the water distribution system. All were sampled between February and April, 1999. Samples collected by the Health Officer show no contamination. Some samples collected by Band members show contamination. According to Mr. Paul Broda of the Medical Services Branch of Health Canada in Prince George, extreme care has to be taken in collecting samples from sink taps and he believes that some of the positive results may reflect sampling procedures. For example, the screen on the tap can be contaminated resulting in a false positive. Health Canada intends to conduct monthly bacteriological sampling at Necoslie starting in April, 2000.

From the aforementioned, it appears unlikely that contamination within the distribution system occurs, but this cannot be concluded with certainty. Thus, the need for disinfection cannot be ruled out entirely at this stage.

With regards to iron, in one of the two well samples, the iron concentration is only slightly above the recommended limit while it is slightly below the limit in the second sample. Additional sampling should be carried out to ensure that the slightly elevated analytical result is not due to analytical variability. The iron level is controlled for aesthetic reasons only.

The manganese concentration measured was 0.02 mg/L in 1998 and 0.026 mg/L in 1995, both well below the Guideline concentration limit of 0.05 mg/L. Similarly to iron, manganese is controlled for aesthetic reasons only. Elevated manganese concentrations can cause black staining. However, at the reported low concentration staining as a result of manganese is not expected.

Further discussion with the District's superintendent of works confirmed that water users experience staining of sinks and toilets and that the inside surfaces of water pipes show an orangey, slimy film. In contrast, the reservoir floor shows no deposit. The film is believed to be the result of bacteria growing in the distribution system. Such bacteria can impart an unpleasant taste and odour to the water. Bacterial action can also result in the formation of hydrogen sulphide in the distribution system, particularly in hot water heaters. Bacteriological growth can be prevented by chlorinating the well water. Chlorine also readily oxidizes hydrogen sulphide which results in the unpleasant rotten egg odour reported. Water chlorination may also reduce or eliminate the black staining reported, if such staining is due to the sloughing off of bacteria from distribution system piping.

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Trihalomethanes (THMs) may be formed when water is chlorinated and a test to evaluate the THM formation potential should be carried out prior to any chlorine addition. THM formation is generally low for well waters.

12.2 WATER TREATMENT OPTIONS

Manganese greensand filtration may be used to remove iron, manganese, hydrogen sulphide, and turbidity. Only hydrogen sulphide contained in the well water would be removed by the treatment process. The treatment would not affect any hydrogen sulphide generated in the distribution system due to bacteriological action. One method of operating manganese greensand filters is by continuously dosing potassium permanganate into the raw water feed. The permanganate ion is a strong oxidant and would, therefore, provide some level of disinfection. If properly operated, permanganate is completely removed in the filter and no residual remains in the water. Thus it does not impart a taste onto the water but it also does not provide a residual for continued disinfection as chlorine does. As a result, any bacteria growing in the distribution system would not be killed. Water main swabbing and disinfection would have to be carried out in order to remove the slimy film. The use of potassium permanganate does not result in the generation of THMs.

During the January 28, 1999 meeting, it was also reported that a number of customers use point-of-entry or point-of-use treatment devices. Apparently, users of these devices are satisfied with the quality of the treated water produced. One of the point-of-use treatment devices identified in the meeting includes an activated carbon and cation exchange filter. Activated carbon is often used to remove organic compounds resulting in taste complaints, hydrogen sulphide, and, if present, chlorine. Cation exchange filters are used for removal of various positively charged ions such as calcium, magnesium, iron, manganese, copper and lead. The point-of-entry treatment devices used are likely cation exchangers generally referred to as water softeners.

The point-of-use devices described are inexpensive but are generally only used to treat water for culinary use. Water quality concerns in other areas of household water use are not addressed. The filters used in the devices are generally not regenerated but replaced when depleted.

Point-of-entry water softeners can treat all household water. They are regenerated on-site with a brine solution. Waste brine is discharged to sewer and increases the salt loading of the wastewater. Water consumption increases as a result of softener regeneration and backwashing.

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Softeners also remove turbidity. Backwash rates may have to be increased for influent waters with high turbidity. Softeners do not remove hydrogen sulphide.

Manufacturers of the cation exchange resins used in water softeners generally recommend that the chlorine concentration in the influent to the softeners not exceed 0.2 to 0.5 mg/L to minimize the detrimental impact of chlorine on the resin. Household water softeners generally cost between \$1,400 and \$2,400, taxes and installation not included. If the cation exchange resin in the water softeners is regenerated with a sodium brine, the sodium concentration in the treated water increases compared to the raw water. A potassium brine may be used for regeneration if the increase in sodium concentration is not acceptable.

Manganese greensand point-of-entry filters for manganese, iron, and hydrogen sulphide removal are also available. These filters, require the handling of a strong oxidant and close attention to operating conditions. The disposal of waste oxidant solution may also be a concern. Manganese greensand filters are, therefore, not recommended for point-of-entry use.

If only turbidity needs to be removed, the use of small mesh filters could be considered. The appropriateness of such filters should be tested in-situ.

Additional well water sampling should be carried out before implementation of any water treatment. As a minimum, water samples should be analyzed for iron, manganese, turbidity, coliforms and sulphide (requires a separate sampling bottle with a preservative). Samples should be collected at the well and at the end points of the system, particularly in areas with frequent complaints. It may also be possible that proper system flushings and other maintenance may result in acceptable water.

12.3 WATER TREATMENT COSTS

Installation of a separate water treatment system for the Band is not feasible as part of a communal system since the water treatment facility has to be located ahead of the reservoir to avoid over sizing of the treatment plant.

The iron level is controlled for aesthetic reasons only. The turbidity level, on the other hand, exceeds the Guidelines, especially if the water is to be disinfected. INAC Guidelines would require treatment of the well water for the Band if additional sampling confirms the elevated levels of iron and turbidity.

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Preliminary capital cost estimates for a full-scale manganese greensand water treatment plant, for a communal system is \$1,050,000. Cost sharing would be based on water demand (40/60 Band/District).

It is assumed that the water treatment plant would be located adjacent to the existing well since the District of FSJ owns 3 acres of land around the well.

Consideration could be given to using the retention time available in the reservoirs to reduce turbidity and iron levels. This will necessitate a dedicated 200 mm diameter feed supply to the reservoirs (about \$500,000) and aerating the water either by a venturi or by spraying it inside both reservoirs to oxidize the iron and allow it to form a precipitate that will settle in the reservoir. The presence of two reservoirs would facilitate the occasional flushing of deposited solids.

The suitability of this approach should be field tested prior to further consideration to determine whether:

1. Gravity settling is effective in reducing the turbidity of the water.
2. Aeration is capable of oxidizing the iron.
3. The iron precipitate, if formed, will settle in the reservoir.

13 OTHER ISSUES

1. As stated earlier, the assumptions used in establishing the fire flow demand for the Fort St. James Hotel (4,200 Igpm for 4.5 hours) and the townhouses (3,600 Igpm) appear to be excessively conservative resulting in a significant financial penalty for Fort St. James in terms of reservoir size and upgrading needs of the distribution network. While the costs of upgrading the distribution network does not directly impact the Band (as they would not contribute to its cost), the cost of the reservoir does. The distribution network upgrading cost for Fort St. James might indirectly impact the Band if it reduces the financial ability of Fort St. James to pay for shared components such as the second reservoir and the second well.

The L&M report used the Insurance Services Office Method as recommended by the INAC Guidelines in estimating fire flow. As a result, the Fort St. James Hotel fire need was calculated at 4,200 Igpm for 4.5 hours. The AWWA Manual on Distribution Requirements For Fire Protection states that it is very unusual for an existing water distribution system to be capable of providing every Needed Fire Flow (NFF) within its service area regardless of the NFF calculation method.

Where a single institution requires a high Needed Fire Flow, it is generally more practical to evaluate alternatives such as a sprinkler system or rooftop fire reservoir in conjunction with a secondary fire flow system..

Another important consideration are practical limits of delivering 4,200 Igpm in such a small community. Fire hydrants can generate a flowrate of about 400 to 500 Igpm. This can be increased to about 1,000 Igpm when using a fire truck. Thus, several hydrants may be needed to generate the necessary flow. Considering that hydrants can be as much as 300m apart, it is probably impossible for the fire department in FSJ to deploy the necessary equipment, fire hoses and fire fighters to operate the large number of fire hoses needed to deal with a flow of 4,200 Igpm..

We believe that even the 3,000 Igpm fire flow adopted in this report is beyond the delivery capability of a small community such as Fort St. James. The practical delivery capability should be worked out with the local fire department.

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Reducing the fire flow would probably reduce the size of new watermains in FSJ. For example, reducing the main size from 300 to 250mm could save between \$60,000 and \$80,000.

2. We concur with L&M's recommendation to install a second well. However, we believe that the existing well should also be upgraded to provide full standby pump capacity. The new well location should be based on economical considerations and should not necessarily need to be located on the Reserve as suggested by L&M. The optimum location for the new well would be adjacent to the existing well.
3. The formula used by L&M for sizing the storage reservoir is different from the one found in the INAC Guidelines. It results in slightly smaller reservoir size.

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14 CONCLUSIONS

1. There is little difference in the size and cost of a water supply system between one based on a 10 year horizon versus one based on a 15 year horizon as it relates to the Necoslie I.R. No.1
2. The existing reservoir can satisfy existing fire flows in the Necoslie I.R.
3. The existing reservoir is slightly undersized to satisfy the present communal equalization, communal emergency and fire storage needs for Necoslie only.
4. The existing reservoir cannot satisfy future fire flows in the Necoslie I.R. because of increased water demand in both communities, which reduces the allocated fire storage volume to below that required for fire fighting in Necoslie.
5. Short term measures needed to improve the Band's water supply and fire protection include installing a new and larger pump at the well (536 Igpm vs. the existing 450 Igpm) and providing an additional 121,000 lgal of reservoir storage capacity. The benefit of additional storage capacity cannot be limited to the Band as the distribution system is shared, and the Band will, therefore, only get partial benefit of such an upgrade.
6. The District is urged to reconsider the fire flow criteria adopted in sizing the reservoir. NovaTec adopted a criteria of 3,000 Igpm for 3 hours in this report (vs. 4,200 Igpm for 4.5 hours, as currently proposed). This reduces the size of the reservoir almost by half while keeping its cost almost equal to that of the larger reservoir currently proposed (it is our opinion that the cost of the larger reservoir may have been underestimated by L&M).
7. The capital cost of providing separate water supply systems for each community is estimated at \$1,364,000 for the Necoslie I.R. and \$1,787,000 for Fort St. James (includes \$740,000 for upgrading distribution system in Fort St. James) resulting in a total cost of \$3,151,000. The costs include a standby well and pump house, and provision for low level chlorination, (if required) for each community but exclude cost of water treatment.
8. Total capital cost for a communal system without water treatment would be about \$1,933,000, representing a saving of about \$1,218,000 over that of separate systems serving each community.

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9. The optimum location for a new standby well is adjacent to the existing well and the least costly location for a new reservoir is close to the existing reservoir. These locations were selected for costing the combined system.
10. The most economical solution for the Band, and for the District of Fort St. James, is to participate in a joint system.
11. Three cost sharing formulas were evaluated. The one considered to be the most equitable between two neighbouring communities. It is based on a 40/60 (Band/District) split of capital costs which reflects that projected water demand in each community in the Year 2015. The capital costs include a new standby well, new reservoir, upgrade of existing well pump, and low level chlorination, if required. It also includes a water treatment plant for the entire community to remove turbidity and iron.
12. The cost of upgrading the distribution system in Fort St. James (about \$740,000) would be the responsibility of the District as it does not benefit the Band.
13. Based on the two water sampling events, the water quality is above the limit for turbidity and possibly iron. The water also contains trace amounts of hydrogen sulfide. The bacterial quality of the water at the well and, probably, the distribution system meets bacterial standards.
14. The iron level is controlled for aesthetic reasons only. The turbidity level exceeds the Guidelines and would be an issue if disinfection is called for. Nonetheless, Fort St. James is not compelled to treat the water, although it would eliminate complaints and reduce maintenance needs. INAC Guidelines, on the other hand, would require treatment of the well water for the Band for turbidity and, if additional sampling confirms the elevated levels of iron. Also, if bacterial contamination in the distribution system is shown to occur, disinfection would be called for (this will require turbidity removal).
15. Additional sampling is needed prior to making a decision on the need for iron removal.
16. An on-site testing program is needed to determine the effectiveness of selected treatment methods for turbidity and iron removal (either turbidity alone or jointly with iron).
17. The capital cost of the proposed reservoir serving FSJ only or serving FSJ for the combined system option will need to be reassessed if the District of FSJ maintains its fire

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flow criteria of 4,200 Igpm for 4.5 hours. The revised capital cost of that reservoir may call for a reassessment of some of the conclusions of this report.

18. An implementation plan for a cost sharing agreement will have to be developed between the two communities.

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15 RECOMMENDATIONS

1. The District of Fort St. James should reassess its fire flow criteria with the objective of reducing them to the level recommended in this report. It should reassess the capital cost of the new reservoir.
2. Assuming that the fire flow criteria adopted by the District of FSJ is revised as proposed, the recommended capital cost sharing formula for a combined system serving both the Necoslie Band and the District is one based on projected water demand. This would result in a 40/60 split in costs between the Band and the District.
3. Develop an implementation plan for a cost sharing agreement between the two communities.
4. A one year water quality monitoring program of the existing artesian well and distribution system is recommended to determine the need for iron removal and disinfection. The program should consist of:
 - Quarterly sampling at the well and analysis of full water potability parameters plus coliforms (total and fecal), TOC and THMFP
 - Monthly sampling at the well and analysis for iron, manganese, turbidity and coliforms
 - Monthly sampling at selected water taps in the distribution system (ten locations) and analysis for bacteria, iron and turbidity.

A budget of \$20,000 should be allocated for this program. This assumes that Health Canada would collect the samples and ship them to a lab for analysis. The budget allows for sample shipping, lab analysis, coordination activity by a consultant, and review and reporting of the results. It excludes the cost of developing a treatment strategy. The budget may be reduced as Health Canada indicated that they plan to carry out a sampling program at Necoslie starting in April 2000.

5. In-situ field testing should be carried out at the well to determine the effectiveness of selected treatment methods for turbidity and iron removal (either turbidity alone or jointly with iron).

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A budget allowance of \$15,000 should be allocated for this program. It would include testing of selected mesh filter membranes and gravity settling experiments for turbidity removal and testing of selected mediums for iron removal including simple aeration followed by settling. This budget excludes the costing of full scale treatment options.

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TABLE 1
PUBLIC WORKS & GOVERNMENT SERVICES CANADA
COST OF SEPARATE & COMBINED WATER SUPPLY SYSTEMS
& COST SHARING FORMULAS FOR COMBINED SYSTEM
SERVING NECOSLIE I.R. #1 & DISTRICT OF FORT ST. JAMES

Item	SEPARATE SYSTEMS			COST SHARING FORMULAS OF COMBINED SYSTEMS								
	Necoslie Band	Fort St. James	Total	BASED ON POPULATION 31 / 69 SPLIT			BASED ON WATER DEMAND 40 / 60 SPLIT			BASED ON EQUAL CONTRIBUT. 50 / 50 SPLIT		
				Necoslie Band	Fort St. James	Total	Necoslie Band	Fort St. James	Total	Necoslie Band	Fort St. James	Total
Basic water system (1)	\$1,080,000	\$790,000	\$1,870,000	\$290,160	\$645,840	\$936,000	\$374,400	\$561,600	\$936,000	\$468,000	\$468,000	\$936,000
New standby well	\$238,000	\$211,000	\$449,000	\$65,410	\$145,590	\$211,000	\$84,400	\$126,600	\$211,000	\$105,500	\$105,500	\$211,000
Low level chlorination	\$46,000	\$46,000	\$92,000	\$14,260	\$31,740	\$46,000	\$18,400	\$27,600	\$46,000	\$23,000	\$23,000	\$46,000
Upgrade FSJ distribution system (2)	\$0	\$740,000	\$740,000	\$0	\$740,000	\$740,000	\$0	\$740,000	\$740,000	\$0	\$740,000	\$740,000
Total without water treatment (3)	\$1,364,000	\$1,787,000	\$3,151,000	\$369,830	\$1,563,170	\$1,933,000	\$477,200	\$1,455,800	\$1,933,000	\$596,500	\$1,338,500	\$1,933,000
Water treatment, if required (4)	\$600,000	\$0	\$600,000	\$325,500	\$724,500	\$1,050,000	\$420,000	\$630,000	\$1,050,000	\$525,000	\$525,000	\$1,050,000
Total with water treatment (3)	\$1,964,000	\$1,787,000	\$3,751,000	\$695,330	\$2,287,670	\$2,983,000	\$897,200	\$2,085,800	\$2,983,000	\$1,121,500	\$1,861,500	\$2,983,000

NOTES:

- (1) Assumes fire storage needs of Fort St. James are reduced by 50% (from 4,200 lpm for 4.5 hours to 3,000 lpm for 3 hours) (see Section 9.3)
 (2) Distribution system upgrade costs would be the responsibility of the District of Fort St. James (see Section 9.1)
 (3) Includes 20% contingency plus 10% engineering. Excludes GST.

h 1140704 (Table 1)

APPENDIX A

BACTERIOLOGICAL WATER QUALITY DATA

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to Information ActCommuniqué en vertu de la Loi sur l'accès à
l'information Page # 1Ver. 2.41 - 10/04/99
BACTSYS V00MPV-Water Sample Analysis System
Drinking Water Bacteriological Report
From Feb 1 2000 to Feb 29 2000System : DISTRICT OF FORT ST JAMES
Operator: DISTRICT OF FORT ST JAMES
Address : PO DRAWER 640
: FORT ST JAMES
: BC
: V0J 1P0For further Enquiries Contact:
PRINCE GEORGE ENV. HEALTH
FOURTH FLOOR #1930
1600 3RD AVENUE
PRINCE GEORGE, B.C.
V2L 3G6
Telephone: 565-6088

System Type : Community water System-301+ connections

Sample Station	Date Collected	Positive Results	Total Coliform	Faecal Coliform	Over-Grown	Site Type	Site Source	Site Status
CHAMBER OF COMMERCE OFFICE	2000.02.15	(N)	-	-	(N)	Dist. System	Deep Well(s)	A
HEALTH UNIT - FORT ST. JAMES	2000.02.15	(N)	-	-	(N)	Dist. System	Deep Well(s)	A
WELLHOUSE TAP	2000.02.02	(N)	-	-	(N)	Dist. System	Deep Well(s)	A

Notes: - Means EXCEEDS Canadian Drinking Water Guidelines. Site Status: I-Inactive Site A-Active site

Total Positive Coliform Samples = 0
Total Samples Taken = 3
Percentage of Positive Coliforms = 0.00

Evaluation of Samples:

- Number of samples that contain faecal coliform = 0
- Number of samples that contain total coliform = 0
- Number of samples that contain more than 10 total coliform per 100 mL = 0
- Occurrence of consecutive samples from the same site showing presence of coliform = 0
- Based on a minimum of ten samples, percentage that contain coliform = 0%
- Number of samples taken on the same day that show presence of coliform = 0

[X] Satisfactory [] Needs Improvement [] Unsatisfactory [] Not Advisory

Comments : _____


Environmental Health Officer

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to Information ActCommuniqué en vertu de la
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Information

For Further Enquiries Contact:
PRINCE GEORGE ENV. HEALTH
FOURTH FLOOR #1930
1600 3RD AVENUE
PRINCE GEORGE, B.C.
V2L 3G6
Telephone: 565-6088Ver. 2.11 - 11.04.95
SALSYS.FPGMCM-Water Sampling Analysis System
Drinking Water Bacteriological Report
From Jan 1 2000 to Jan 31 2000System : DISTRICT OF FORT ST JAMES
Operator: DISTRICT OF FORT ST JAMES
Address : PO DRAWER 640
: FORT ST JAMES
: BC
: V0U 1P0
System Type : Community Water System-301+ connections

Water System	Date Collected	Positive Results	Total Coliform	Faecal Coliform	Over-Growth	Site Type	Site Source	Site Status
CHAMBER OF COMMERCE OFFICE	2000.01.19	(N)	-	-	(N)	Dist System	Deep Well(s)	A
HEALTH UNIT - FORT ST JAMES	2000.01.05	(N)	-	-	(N)	Dist System	Deep Well(s)	A

Note: * means EXCEEDS Canadian Drinking Water Guidelines, Site Status: I Inactive Site, A Active Site

Total Positive Coliform Samples : 0
Total Samples Taken : 2
Percentage of Positive Coliforms : 0%

Evaluation of Samples

- Number of samples that contain faecal coliform : 0
- Number of samples that contain total coliform : 0
- Number of samples that contain more than 10 total coliform per 100 ml : 0
- Occurrence of consecutive samples from the same site showing presence of coliform : 0
- Based on a minimum of 20 samples, percentage that contain coliform : N/A
- Number of samples taken on the same day that show presence of coliform : 0

[] Satisfactory [X] Needs Improvement [] Unsatisfactory [] Soil Advisory

Comments: Increase sampling frequency to 4 times per year

Environmental Health Officer



Communiqué en vertu de la
Loi sur l'accès à
l'information

RESULTS OF ANALYSIS - Water

File No. K3563

		Antoine, End User Nakazdli 99 02 16	Thomas, 1st User Nakazdli 99 02 16	Prince, Mid User Nakazdli 99 02 16	Lebrum, End User Nakazdli 99 02 16	Bird, 4ml Well Nakazdli 99 02 16
Physical Tests						
Colour	(CU)	<5	<5	<5	<5	<5
Conductivity	(umhos/cm)	607	620	622	620	682
Total Dissolved Solids		338	343	345	347	381
Hardness	CaCO ₃	331	337	328	323	273
pH		7.52	7.65	7.72	7.72	7.77
Turbidity	(NTU)	6.0	1.1	4.6	3.3	1.0
Dissolved Anions						
Alkalinity-Total	CaCO ₃	319	321	316	312	304
Chloride	Cl	0.5	0.6	-	-	3.6
Fluoride	F	0.04	0.10	-	-	0.13
Sulphate	SO ₄	46	46	51	50	78
Total Metals						
Aluminum	T-Al	<0.005	<0.005	-	-	<0.005
Arsenic	T-As	0.0049	0.0037	-	-	0.0014
Barium	T-Ba	0.058	0.060	-	-	0.035
Boron	T-B	<0.05	<0.05	-	-	0.16
Cadmium	T-Cd	<0.0002	<0.0002	-	-	<0.0002
Calcium	T-Ca	52.0	53.4	51.3	50.2	40.8
Chromium	T-Cr	<0.001	<0.001	-	-	<0.001
Copper	T-Cu	<0.001	<0.001	<0.001	<0.001	0.006
Iron	T-Fe	0.53	0.17	0.56	0.36	<0.03
Lead	T-Pb	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	T-Mg	48.9	49.6	48.5	47.9	41.5
Manganese	T-Mn	0.031	0.027	0.030	0.030	0.016
Mercury	T-Hg	<0.00005	<0.00005	-	-	0.00011
Potassium	T-K	3.13	3.32	-	-	2.27
Selenium	T-Se	<0.001	<0.001	-	-	<0.001
Sodium	T-Na	13.7	13.6	-	-	53.6
Uranium	T-U	0.00016	0.00016	-	-	0.00181
Zinc	T-Zn	<0.005	<0.005	-	-	0.095

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except for pH, Colour (CU),
Conductivity (umhos/cm), and Turbidity (NTU).
< = Less than the detection limit indicated.

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RESULTS OF ANALYSIS - Water

File No. 11746

Nakazdli - Eliza Sam
Well Residence
Supply
98 01 14Physical Tests

Colour	(CU)	<5
Conductivity	(umhos/cm)	604
Total Dissolved Solids		355
Hardness	CaCO ₃	335
pH		7.93
Turbidity	(NTU)	0.9

Dissolved Anions

Alkalinity-Total	CaCO ₃	316
Chloride	Cl	<0.5
Fluoride	F	0.10
Sulphate	SO ₄	47

Nutrients

Nitrate Nitrogen	N	0.055
Nitrite Nitrogen	N	0.004

Total Metals

Aluminum	T-Al	<0.2
Arsenic	T-As	0.0036
Barium	T-Ba	0.06
Boron	T-B	<0.1
Cadmium	T-Cd	<0.0002
Calcium	T-Ca	51.4
Chromium	T-Cr	<0.01
Copper	T-Cu	<0.01
Iron	T-Fe	0.08
Lead	T-Pb	<0.001
Magnesium	T-Mg	50.2
Manganese	T-Mn	0.029
Mercury	T-Hg	<0.00005
Potassium	T-K	3
Selenium	T-Se	<0.0005
Sodium	T-Na	15
Zinc	T-Zn	<0.005

Remarks regarding the analyses appear at the beginning of this report.
Results are expressed as milligrams per litre except for pH, Colour (CU),
Conductivity (umhos/cm), and Turbidity (NTU).
< = Less than the detection limit indicated.

	nakazdli	location	date	gen.bact	t.colif	fecal.c	treatm	sampler
* 1	Mary Lebrun	KT	02/05/99	0	0	0	2	1.00
2	Nick Prince	Stuart Lake	02/10/99	6057	8	0	16	2.00
* 3	Bruce Prince	Lot #116	02/11/99	0	0	0	2	2.00
* 4	Eileen Prince	Lot #54 BT	02/11/99	4	0	0	2	2.00
5	Loretta Bird	KT 4 mile well	02/16/99	66	0	0	1	1.00
* 6	Evan Prince, LT	#226, BT	03/18/99	0	0	0	2	2.00
* 7	Lot #108	Tap Water CS	03/15/99	52	0	0	2	2.00
* 8	Childcare Centre	Tap Water	03/22/99	0	0	0	2	2.00
* 9	Celina Lazarre	Lot #37, KT	03/22/99		3000	0	2	2.00
* 10	Betsy Pius	Lot#12 Watertap	04/30/99		3000	26	2	2.00
* 11	Marie Sam	Lot#7 Watertap	04/30/99	63704	6	0	2	2.00
* 12	Rosie Prince	Lot#99 Tap	04/30/99	0	0	0	2	2.00
13	Childcare Centre	Refillable jug	05/27/99	8	0	0	19	1.00
14	Virgie Alexander	PW	05/27/99	0	0	0	7	1.00
15	Mouth of River		09/01/99	3000	48	24	20	2.00
16	Nakazdli Bridge		09/01/99	1206	60	2	20	2.00
17	Lagoon Drainage		09/01/99	3000	20	50	20	2.00
18	Lagoon Drainoff		09/01/99	3000	24	8	20	2.00
19	LeaseLand Site 7	Stuart Lake	09/01/99	670	2	0	20	2.00
20	LeaseLand Site 8	Stuart Lake	09/01/99	1850	18	0	20	2.00
21								

* Ft. St. James village water supply

1-1

1 = EH0

2 = band member

J:\COMMON\EHO\SPSS-WAT\2000\Nakazd00.sav

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l'information

	nakazdli	location	date	gen.bact	t.colif	fecal.c	treatrn	sampler
1	Addie Prince KT	Niagara filter	02/10/00	0	0	0	2	1.00
2	Addie Prince KT	no filter	02/10/00	0	0	0	2	1.00
3	George Sam KT	Waterpik filter	02/10/00	1554	0	0	2	1.00
4	George Sam KT	no filter	02/10/00	0	0	0	2	1.00
5	Loretta Bird KT	4 mile well	02/10/00	0	0	0	2	1.00
6								
7								
8								
9								
10								
11								
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PRIVY COUNCIL • CONSEIL PRIVÉ

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to Information Act
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Loi sur l'accès à
l'information

P C 1979-3383
13 December, 1979

HIS EXCELLENCY THE GOVERNOR GENERAL IN
COUNCIL, on the recommendation of the Minister of
Indian Affairs and Northern Development, pursuant
to section 40 of the Indian Act, is pleased hereby
to accept the attached surrender dated April 24,
1979, by the Necoslie Band of Indians of 65.6
acres, more or less, in Necoslie Indian Reserve
No. 1, in the Province of British Columbia, in
order that the land described in the surrender may
be leased.

CERTIFIED TO BE A TRUE COPY - COPIE CERTIFIÉE CONFORME

Marcel Massé

CLERK OF THE PRIVY COUNCIL - LE GREFFIER DU CONSEIL PRIVÉ

DOCUMENT OF SURRENDER

FIRST VOTE

A majority of the electors of the Necoslie Band of Indians, for whose use and benefit in common the Necoslie Indian Reserve was set apart, hereby assent to the surrender for a term of Fifty-Five (55) Years from the date hereof by that Band to Her Majesty in Right of Canada, at a general meeting called by the Council of the Band and held on the Twenty-Fourth day of April, 1979, that part of Necoslie Indian Reserve No. 1, described as follows: all and singular that certain parcel or tract of land and premises situate, lying and being in Necoslie Indian Reserve No 1 in the Province of British Columbia, containing by admeasurement 65 6 acres, more or less, and being composed of:

- 1 All of Lot 220 as shown on Plan 56188, Canada Lands Surveys Records
- 2 All that part of Necoslie Indian Reserve No 1 which is bounded on the west by the easterly boundary of Lot 220, on the south by the southerly boundary of Necoslie Indian Reserve No 1 and on the north and east by the southerly and westerly limit of Necoslie Road as shown on Plan 59349 deposited in the said Canada Lands Surveys Records

in order that Her Majesty in Right of Canada may lease the lands so surrendered on condition that the proceeds are to be held by Her Majesty in Right of Canada for the use and benefit of the said Indian Band, and on the further conditions that

- 1 The purpose for which the land may be leased is for a sewerage lagoon site
- 2 Any lease entered into must be approved by the Necoslie Band
- 3 That the whole or any part of the land hereinbefore described may be returned to full Reserve status by Order-in-Council on receipt of a Band Council Resolution by this or any succeeding Band Council when no longer required for leasing purposes

Number of eligible electors

185

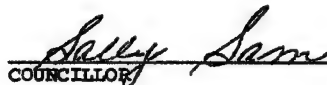
118


electors voted in favour of the
Document of Surrender, and

2

voted against assenting to the
Document of Surrender



CHIEF


COUNCILLOR



COUNCILLOR


COUNCILLOR

This is Exhibit "A" to the
Affidavit of James T Prince ,
sworn before me this 24th
day of
April , 1979


Commissioner pursuant to
Section 108 (a) - Indian Act.

This is Exhibit "A" to the
Affidavit of Rae Manning McIntyre ,
sworn before me this 26th
day of
April, , 1979


Commissioner pursuant to
Section 108 (a) - Indian Act

**AFFIDAVIT OF SUPERINTENDENT OF
OFFICER APPOINTED BY THE MINISTER
FIRST MEETING OR FIRST REFERENDUM**

*Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information*

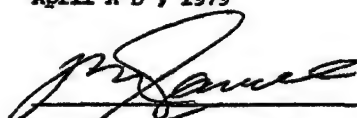
CANADA)
Province of)
To Wit:)

I, Rae Manning McIntyre of the City of Prince George, in the Province of
British Columbia, Prince George District, MAKE OATH AND SAY THAT:

- 1 I was present when the electors of the Necoslie Band of Indians
assented to the surrender referred to in the Document of Surrender,
marked as Exhibit "A" to this Affidavit.
2. The statements in the said Document of Surrender concerning the
date of the surrender, the surrender having been made to Her
Majesty in Right of Canada, the assent having been given at a
general meeting called by the Council of the Band the description
of lands surrendered,

the purpose of the surrender, the conditions on which the surrender
was made and the number of electors who voted in favour of assenting
to the surrender and the number who voted against assenting to it
are true to my personal knowledge

SWORN before me at Prince George)
in the Province of British Columbia)
this Twenty-Fifth day of)
April A D , 1979)


_____

Commissioner pursuant to
Section 108 (a) - Indian Act.

AFFIDAVIT OF CHIEF OR COUNCILLOR
FIRST MEETING OR FIRST REFERENDUM

*Released under the Access
to Information Act*
*Communiqué en vertu de la
Loi sur l'accès à
l'information*

CANADA)

Province of)

To Wit.)

I, James T. Prince, Chief of the Necoslie Band of Indians, in the
Province of British Columbia, MAKE OATH AND SAY THAT:

- 1 I was present when the said Band of Indians made the surrender
referred to in the Document of Surrender, marked as Exhibit "A"
to this Affidavit
2. The statements in the said Document of Surrender concerning the date of
the surrender, the surrender having been made to Her Majesty in Right
of Canada, the assent having been given at a general meeting called by
the Council of the Band, the description of the lands surrendered,

the purpose of the surrender, the conditions on which the surrender
was made and the number of electors who voted in favour of assenting
to the surrender and the number who voted against assenting to it
are true to my personal knowledge.
3. The terms of the said surrender were interpreted to the said electors
by an interpreter qualified to interpret from the English language to
the language of the said Indians.
- 4 That I am Chief of the said Band

SWORN before me at Necoslie)
Reserve in the Province of)
British Columbia)
this Twenty-Fourth day of)
April, A.D., 1979)


Commissioner pursuant to
Section 106 (a) - Indian Act


CERTIFIED TO BE A TRUE COPY


Released under the Access
to Information Act

Communiqué en vertu de la
Loi sur l'Accès à

the parti

PARTICULARS

NAME OF PARTIES... *NECASTLE BAND OF INDIANS*

TYPE OF INSTRUMENT: *A Surrender And Order in Council*

DATE OF INSTRUMENT: *Surrender Act 14.7.4, 1979 & Order in Council Dec. 13, 1979*

LAND DESCRIPTION

Province: *British Columbia*

Reserve & No: *NECASTLE I.R. No. 1*

Parcel: *14.4.21. Lot 220, C.E.R. Plan 5688*

21 Portion of Reserve as described in notes

and Boundary Roads in Surrender

.....

TYPE OF INTEREST OR CHARGE: *Surrender for Logging Purposes*

SUPPORTING DOCUMENTS:
.....

Alexander Mc Dougal H-2
APPLICANT AND ADDRESS

Acceptance

This application for registration has been accepted and the instrument has been entered in the appropriate Register. This instrument has been registered under number _____ on _____ 19 ____ at _____

JAN - 2 1980

Rejection

This application for registration has been rejected for the following reasons:

REGISTRAR

067406

JAN 15 8 11 AM '80

NECOSLIE

INDIAN RESERVE NO. 1

BRITISH COLUMBIA

SURRENDER AND ORDER IN COUNCIL

NUMBER OF PIECES

8

I CERTIFY THAT THE WITHIN
INSTRUMENT IS DULY ENTERED INTO
THE REGISTER'S OF INDIAN LANDS AT
OTTAWA, IN ACCORDANCE WITH
SECTIONS 21 & 55 OF THE INDIAN
ACT.


REGISTRAR

IAA /1727



CANADA

PRIVY COUNCIL • CONSEIL PRIVÉ

P C 1979-3383
13 December, 1979

HIS EXCELLENCY THE GOVERNOR GENERAL IN
COUNCIL, on the recommendation of the Minister of
Indian Affairs and Northern Development, pursuant
to section 40 of the Indian Act, is pleased hereby
to accept the attached surrender dated April 24,
1979, by the Necoslie Band of Indians of 65.6
acres, more or less, in Necoslie Indian Reserve
No. 1, in the Province of British Columbia, in
order that the land described in the surrender may
be leased.

CERTIFIED TO BE A TRUE COPY - COPIE CERTIFIÉE CONFORME

A handwritten signature in cursive script, reading "Marcel Massé".

CLERK OF THE PRIVY COUNCIL - LE GREFFIER DU CONSEIL PRIVÉ



C.P. 1979-3383
13 décembre 1979

PRIVY COUNCIL • CONSEIL PRIVÉ

Sur avis conforme du ministre des Affaires
indiennes et du Nord canadien et en vertu de
l'article 40 de la Loi sur les Indiens, il plait à
Son Excellence le Gouverneur général en conseil
d'accepter par les présentes la cession, par la
bande indienne de Necoslie, d'une parcelle de
terre d'environ 65,6 acres située dans la réserve
indienne n° 1 de Necoslie en Colombie-Britannique,
et datée du 24 avril 1979 afin qu'elle soit cédée
à bail.

CERTIFIED TO BE A TRUE COPY - COPIE CERTIFIÉE CONFORME

CLERK OF THE PRIVY COUNCIL - LE GREFFIER DU CONSEIL PRIVÉ

DOCUMENT OF SURRENDER

FIRST VOTE

A majority of the electors of the Necoslie Band of Indians, for whose use and benefit in common the Necoslie Indian Reserve was set apart, hereby assent to the surrender for a term of Fifty-Five (55) Years from the date hereof by that Band to Her Majesty in Right of Canada, at a general meeting called by the Council of the Band and held on the Twenty-Fourth day of April, 1979, that part of Necoslie Indian Reserve No 1, described as follows all and singular that certain parcel or tract of land and premises situate, lying and being in Necoslie Indian Reserve No 1 in the Province of British Columbia, containing by admeasurement 65 6 acres, more or less, and being composed of

- 1 All of Lot 220 as shown on Plan 56188, Canada Lands Surveys Records
- 2 All that part of Necoslie Indian Reserve No 1 which is bounded on the west by the easterly boundary of Lot 220, on the south by the southerly boundary of Necoslie Indian Reserve No 1 and on the north and east by the southerly and westerly limit of Necoslie Road as shown on Plan 59349 deposited in the said Canada Lands Surveys Records

in order that Her Majesty in Right of Canada may lease the lands so surrendered on condition that the proceeds are to be held by Her Majesty in Right of Canada for the use and benefit of the said Indian Band, and on the further conditions that

- 1 The purpose for which the land may be leased is for a sewerage lagoon site
- 2 Any lease entered into must be approved by the Necoslie Band
- 3 That the whole or any part of the land hereinbefore described may be returned to full Reserve status by Order-in-Council on receipt of a Band Council Resolution by this or any succeeding Band Council when no longer required for leasing purposes

Number of eligible electors

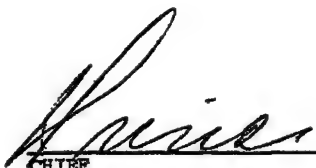
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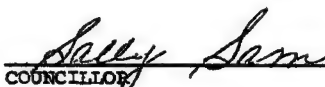
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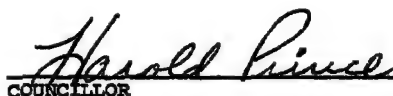
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This is Exhibit "A" to the
Affidavit of Rae Manning McIntyre ,
sworn before me this 26th
day of
April, , 1979



Commissioner pursuant to
Section 108 (a) - Indian Act

AFFIDAVIT OF SUPERINTENDENT OF
OFFICER APPOINTED BY THE MINISTER
FIRST MEETING OR FIRST REFERENDUM

Released under the Access
to Information Act
Communiqué en vertu de la
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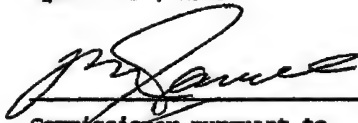
CANADA)
Province of)
To Wit:)

I, Rae Manning McIntyre of the City of Prince George, in the Province of
British Columbia, Prince George District, MAKE OATH AND SAY THAT:

1. I was present when the electors of the Necoslie Band of Indians
assented to the surrender referred to in the Document of Surrender,
marked as Exhibit "A" to this Affidavit.
2. The statements in the said Document of Surrender concerning the
date of the surrender, the surrender having been made to Her
Majesty in Right of Canada, the assent having been given at a
general meeting called by the Council of the Band the description
of lands surrendered,

the purpose of the surrender, the conditions on which the surrender
was made and the number of electors who voted in favour of assenting
to the surrender and the number who voted against assenting to it
are true to my personal knowledge

SWORN before me at Prince George)
in the Province of British Columbia)
this Twenty-Fifth day of)
April A D , 1979)


Commissioner pursuant to
Section 108 (a) - Indian Act

AFFIDAVIT OF CHIEF OR COUNCILLOR
FIRST MEETING OR FIRST REFERENDUM

CANADA)
Province of)
To Wit.)

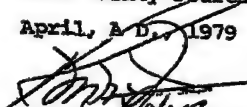
I, James T. Prince, Chief of the Necoslie Band of Indians, in the
Province of British Columbia, MAKE OATH AND SAY THAT

1. I was present when the said Band of Indians made the surrender
referred to in the Document of Surrender, marked as Exhibit "A"
to this Affidavit.
2. The statements in the said Document of Surrender concerning the date of
the surrender, the surrender having been made to Her Majesty in Right
of Canada, the assent having been given at a general meeting called by
the Council of the Band, the description of the lands surrendered,

the purpose of the surrender, the conditions on which the surrender
was made and the number of electors who voted in favour of assenting
to the surrender and the number who voted against assenting to it
are true to my personal knowledge.

- 3 The terms of the said surrender were interpreted to the said electors
by an interpreter qualified to interpret from the English language to
the language of the said Indians.
4. That I am Chief of the said Band

SWORN before me at Necoslie)
Reserve in the Province of)
British Columbia)
this Twenty-Fourth day of)
April, A.D. 1979)


Commissioner pursuant to
Section 108 (a) - Indian Act


CERTIFIED TO BE A TRUE COPY


APPLICATION FOR REGISTRATION

INDIAN LANDS

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

985/30-674-1

The undersigned hereby requests that the document, the particulars of which are set out below, be entered, pursuant to the Indian Act, either in the Reserve Land Register or in the Surrendered Lands Register as the case may be

PARTICULARS

NAME OF PARTIES... NECOSLIE BAND OF INDIANS

TYPE OF INSTRUMENT A Surrender And Order in Council

DATE OF INSTRUMENT Surrender April 24, 1979 & Order in Council Dec. 13, 1979

LAND DESCRIPTION: Province: BRITISH COLUMBIA

Reserve & No. NECASTLE F.R. M.1

Parcel: 1414 of Lot 270, C.S.R. Plan 50188

21 Portion of Reserve as described in notes

and Boundaries in Surrender

.....

TYPE OF INTEREST OR CHARGE Surrender for leasing purposes

SUPPORTING DOCUMENTS:

.....

January 2, 1980
DATE

Alexander McPhee H.O.
APPLICANT AND ADDRESS

Acceptance

This application for registration has been accepted and the instrument has been entered in the appropriate Register This instrument has been registered under number _____ on _____ 19 ____ at _____

REGISTRAR

JAN - 2 1980

Rejection

This application for registration has been rejected for the following reasons:

.....

.....

.....

DATE

REGISTRAR

067406

JAN 15 8 11 AM '80

NECOSLIE

INDIAN RESERVE NO. 1

BRITISH COLUMBIA

SURRENDER AND ORDER IN COUNCIL

NUMBER OF PIECES

8

I CERTIFY THAT THE WITHIN
INSTRUMENT IS DULY ENTERED INTO
THE REGISTER'S OF INDIAN LANDS AT
OTTAWA, IN ACCORDANCE WITH
SECTIONS 21 & 55 OF THE INDIAN
ACT.

G. J. Prescott
REGISTRAR

A0430859_15-001152

THIS AGREEMENT made in triplicate this eleventh day
January, A.D., 1971.

BETWEEN

AND -

HER MAJESTY THE QUEEN in right
of Canada, hereinafter called
"Her Majesty",

OF THE FIRST PART,

The Corporation of the VILLAGE
OF FORT ST. JAMES, in the Province
of British Columbia, hereinafter
called the "Permittee",

OF THE SECOND PART.

WHEREAS the Permittee has applied to use and occupy a
part of Necoslie Indian Reserve No. One (1) in the Province of
British Columbia.

AND WHEREAS the Council of the Necoslie Band of Indians
for whose use and benefit the said Reserve has been set apart
has, by Resolution dated July Seventeenth, 1968, recommended
approval of the application.

NOW THEREFORE the Minister of Indian Affairs and Northern
Development, hereinafter called "The Minister" on behalf of Her
Majesty, under authority of Section 28(2) of the Indian Act, Chapter
I-6, Revised Statutes of Canada, 1970 doth hereby grant the Permittee,
its successors and assigns the right to.

- (a) construct, operate and maintain a sewage lagoon and sewage
trunk line on the lands being part of Necoslie Indian Reserve
Number One, in the Province of British Columbia, which may
be more particularly described as follows

DESCRIPTION

FIRSTLY: In British Columbia, in Range 5, Coast District; in
Necoslie Indian Reserve Number 1, Lot 220 according
to Plan 56188 in the Canada Lands Surveys Records at

-2-

Ottawa, a copy of which is deposited in the Land
Registry Office at Prince Rupert as DF 18994,
said Lot containing 25.18 acres, more or less.

SECONDLY

In British Columbia, in Range 5, Coast District,
in Necoslie Indian Reserve Number 1, a sewer
pipeline right of way according to Plan 56135 in the
Canada Lands Surveys Records at Ottawa, said right
of way containing 1.70 acres, more or less.

- (b) generally to do all acts necessary and incidental to the
business of the Permittee in connection with the foregoing.

IT IS AGREED AND UNDERSTOOD that the aforesaid
permission is granted on the following terms and conditions to which
the Permittee agrees.

1 That the Permit shall be for a term of forty (40) years
from the first (1st) day of August, 1968, to the thirty-first (31st)
day of July, 2008

2 That the Permittee shall pay the sum of Six Hundred
(\$600.00) Dollars on or before the execution hereof, as a fee
for the first year and thereafter annually in advance, the sum of
Six Hundred (\$600 00) Dollars for the next nine (9) years and
thereafter during the remainder of the term as is herein provided
by paragraph three (3) hereunder

3. "That the fee for the second ten year period of the
term beginning August 1, 1978 and for each subsequent ten year
period shall be negotiated prior to the commencement of each such
ten year period. In conducting such negotiations the parties
shall assume that the fee will be a fair economic fee and that
the lands are lands in the same state as they were on the first
day of August, 1968. In the event of disagreement on the fee to
be paid for any of the succeeding ten year periods mentioned
heretofore, the Permittee shall have the right to refer this matter
to the Federal Court of Canada to determine the fee based upon the
same assumptions hereinbefore provided."

IT IS FURTHER AGREED that this permit shall be subject
to the provisions of the Indian Act and Regulations established
hereunder, which may be now in force or which may hereafter be
made and established from time to time in that behalf by the
Governor-in-Council.

IN WITNESS WHEREOF the Director, Indian-Eskimo Economic
Development Branch, Department of Indian Affairs and Northern
Development, on behalf of Her Majesty the Queen in Right of Canada,
the Permittee has caused these presents to be executed and its
corporate seal to be affixed hereto by its proper officers duly
authorized in that behalf.

SIGNED, SEALED AND DELIVERED
in the presence of:

Phyllis K. Cochran

20 Box 136

Fort St. James BC
As to the signature of the
Permittee

THE CORPORATION OF THE VILLAGE OF FORT ST. JAMES
[Signature] M. M. M.
[Signature] Permittee Clerk



SIGNED, SEALED AND DELIVERED
by the Director, Indian-Eskimo
Economic Development Branch in
the presence of:

CO. 201
BAND CONSENT BCR 17-7-69 POLICY
APPROVED AS TO FORM
FOR LEGAL ADVISER
RECOMMENDED

J. Marion

[Signature]
Director, Indian-Eskimo
Economic Development Branch.





THE VILLAGE OF FORT ST. JAMES

BY-LAW NO. 157

A By-Law to authorize the Village of Fort St James
to enter into an agreement with Her Majesty the
Queen in right of Canada for the use by the Village
of a portion of Necoslie Band Reservation for sewer
lagoon purposes

WHEREAS the Village has constructed a sewerage system with an
outfall to a sewer lagoon on the Necoslie Indian Band Reservation No. 1.

AND WHEREAS the Village is desirous of obtaining from Her Majesty
the Queen the right to continue to maintain and operate the sewerage lagoon and
trunk sewer leading thereto over the Indian Reserve property and to pay therefor
a fair annual rental;

NOW THEREFORE the Municipal Council of the Village of Fort St James
in open meeting assembled enacts as follows

- 1 The Village of Fort St. James is hereby authorized to enter
into an agreement with Her Majesty the Queen in right of Canada
in the form annexed hereto and the Mayor and Clerk are hereby
authorized to sign the same on behalf of the Village and affix
the Village seal thereto and deliver the same as the act and
deed of the Village

870310

THE VILLAGE OF FORT ST JAMES

BY-LAW NO _____

WILLSON, KING & COMPANY
Barristers & Solicitors
390-444 Victoria Street
Prince George B.C.

JCN File 6-71

013:39

-2-

- 2 The Village is hereby authorized to pay the permit fee required by the said agreement annually pursuant to the terms thereof
- 3 This By-Law may be cited for all purposes as 'Sewer Lagoon Permit By-Law' /52

READ a first, second and third time on this 22nd day of NOVEMBER 1972.

RECONSIDERED AND FINALLY ADOPTED and sealed with the Corporate Seal on the 6th day of DECEMBER 1972

MAJOR

I hereby certify that the above is a true copy of Sewer Lagoon Permit By-Law /52

REGISTERED in the office of the Inspector of Municipalities this day of 1972



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
INDIAN AFFAIRS BRANCH
BAND COUNCIL RESOLUTION

27/68-89
985/3-6-21:985/8-17-21:985/32-21
Information
H Q Reference

NOTE: The words 'From our Band Funds' must appear in all resolutions requesting expenditures from Band Funds

COUNCIL OF THE	NECOSLIE	BAND	MA
AGENCY	STUART LAKE		
PROVINCE	BRITISH COLUMBIA		
PLACE	NECOSLIE INDIAN RESERVE		
DATE	SEVENTEENTH	JULY	AD 19 68
	DAY	MONTH	YEAR

FOR HEADQUARTERS USE ONLY

DO HEREBY RESOLVE:
THAT a lease be drafted permitting the Village of Fort St. James to construct a sewage lagoon and sewage trunk line on the Necoslle Indian Reserve No. 1, as shown on Associated Engineering Services Ltd., drawings No. 4017-020-SP, dated July 8th, 1968 and No. 4017-020-E2, dated May 29th, 1968. The lease be for a forty-year term at an annual rental of Six Hundred (\$600.00) Dollars; rental to be reviewed every ten years.

THAT the agreement contain the following clauses:

1. The Band will have the right to utilize the sewage system for all present and future residential, industrial, tourist and commercial development on the Reserve. This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve.
2. The Village of Fort St. James be responsible for the maintenance of the sewage lagoon and trunk line.
3. In the event that the Village of Fort St. James abandons the sewage system, it shall revert to the Band at no cost.
4. The Village shall have the first option to renew the lease when it expires.
5. The sewage site and the trunk line easement shall be kept in a husbandlike manner.
6. The Village agrees to comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon.
7. Any disputes which may arise are subject to arbitration by the Exchequer Court of Canada.
8. The lagoon area be approximately 25.3 acres, more or less.

Recommended Indian Commissioner for B.C.

[Signatures of Council Members]
(Councillor) (Councillor) (Councillor)
(Councillor) (Councillor) (Councillor)
(Councillor) (Councillor) (Councillor)
(Councillor) (Councillor) (Councillor)

FOR HEADQUARTERS USE ONLY				
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indigo Act Sec
	A. Capital	B Revenue		
5 Recommended			6 Source of Funds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue	
7 Approved				
Date			Date	
Authorized Officer			Assistant Deputy Minister Indian Affairs	

(A 135 (2-68) 7530-21-025-4662

s.19(1)

WILSON, KING & COMPANY
BARRISTERS AND SOLICITORS

P. E. WILSON, O.C. (1961)
HUBERT S. KING, O.C. GEORGE W. SALOWIN, O.C.
J. GALT WILSON THOMAS H. SCOTT
ERIC B. BUTLERIDGE RICHARD T. LOW
S. HURRAY WARDROBE ROBERT H. DICE
DAVID H. GUTHRIE CLIFFORD E. MACARTHUR
DAVID S. MCGAUGHEY BRIAN MOSEY
BRUCE H. PRESTON

008464

I A & N D
DEPARTMENTAL
MAIL ROOM

DEC 21 9 13 AM '72

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

PHONE 562 1221
AREA CODE 604
CABLE ADDRESS: WILKING
TELEX: 047 8816

THIRD FLOOR
THE TORONTO DOMINION BANK BUILDING
444 VICTORIA STREET
PRINCE GEORGE, B.C.

PLEASE REFER TO OUR FILE NO 6-71
YOUR FILE NO
REPLY ATTENTION OF J. G. Wilson

December 14, 1972

Indian and Northern Affairs
Land Transactions Section
Ottawa, Ontario K1A 0H4

Attention W.V. Lowry

Dear Sirs,

Re Village of Fort St. James
Necoslie Indian Reservation No. 1
Your file No. 985/8-17-21-1 (LM2)

Please find enclosed two copies of By-Law and documents now
authorized and executed by the Village. I would appreciate it
if you would return one executed

Unfortunately the original was sent to the Provincial Government
and filed there together with the appropriate By-Law as required
by the Municipal Act

Yours truly,

WILSON, KING & COMPANY

PER

413279

X014167

RECEIVED FOR REGISTRATION
IN THE SURRENDERED
LAND REGISTER

JAN 9 10 54 AM '73

Neenah

INDIAN RESERVE

NO 1

B.C.

Permit to BCR

SUMMARY

NAK'AZDLI SEWAGE SYSTEM, I. R. #1

The Village of Fort St James (the Village) was permitted to construct a sewage line and sewage lagoon on Necoslie I R #1 by Band Council Resolutions of February 21, 1968 and April 17, 1968

A Band Council Resolution dated July 17, 1968 approved a lease of 25.3 acres of reserve land for the sewage lagoon. The land was to be leased to the village for a period of 40 years, at \$600.00 a year.

On October 30, 1969, the Department of Indian Affairs (DIA) agreed to pay for 20% of the costs of construction of sewage works built on the reserve - a total of \$25,227.00. This covered the cost of a trunk sewer, lift station, force main capacity up to a population of 1,000 and sewage lagoon and outfall capacity up to a population of 400. The DIA provided \$120,000 for the Band to pay for sewage collection mains and connections to property lines.

A Band Council Resolution dated April 17, 1970, set a \$3.00 monthly service charge for each customer. Half of this amount was to be paid to the village, and half was for the operation and maintenance of the sewer system on reserve.

The sewage system was built in 1970, and the lease agreement for the sewage lagoon (25.18 acres) and trunk line (1.70 acres) was signed on January 11, 1971. The annual rental for the 40-year lease was \$600.00, to be reviewed every ten years. The lease was authorized under Section 28(2) of the Indian Act. The land was not surrendered. Jan 11/71
10 yr reviews

In August, 1977, the DIA was informed that the Village and the Nak'azdli Band wished to enter into a new agreement which would allow the village to use additional land on I R #1 in exchange for free water and sewage service to reserve residents/Band members. The proposed lease arrangement was for a 99-year lease to the village, with no rental payments. DIA Officials recommended against this arrangement.

Negotiations between the Village, Band and DIA took place from August, 1977 until March, 1979. On April 24, 1979, the Band membership voted in favour of a surrender of 65.6 acres for the purpose of a 50-year lease to the village. The surrender was accepted by Order-in-Council 1979-3383 on December 13, 1979.

By December, 1981, the Band and village had still not agreed to the terms of a new lease, and in February, 1984, the village informed the Band's solicitor that the additional reserve land was no longer required. At this time, the existing lease was still in effect.

On April 17, 1984, the Band's solicitor informed the DIA that the Nak'azdli Band wished to have the land "de-surrendered".

In July, 1988, the DIA arranged for an appraisal of the land being used for the sewage lagoon (Lot 220, I R #1), so that the annual fee for the original lease could be reviewed and negotiated. The land was appraised at \$75,000 on March 31, 1989.

NAK'AZDLI

SEWAGE SYSTEM REPORT

September, 1995

- 1 On August 7, 1964, the Village of Fort St James ("the Village") authorized Associated Engineering Services Ltd. to proceed with a preliminary sewer survey. At this point, it had not been decided whether or not the Necoshe Indian Reserve subdivision would be included (Tab 1)
- 2 On August 17, 1964, Associated Engineering Services Ltd provided the Department of Indian Affairs (DIA) with a cost estimate of including the reserve subdivision in the report and economic study for the sewer system (Tab 2). On August 21, the company was authorized by the DIA to proceed with the study for the quoted price of \$800.00 (Tab 2)
- 3 By December, 1964, the preliminary report had been completed. On December 9, 1964, the Public Health Engineering Division informed the B C Indian Commissioner that the site chosen for the sewage pond was too close to the homes on I R #1

It is noted that the sewage pond is only 300 ft from the nearest residence and that there are 13 homes within 600 ft of it. This is somewhat close for a pond of this size.

It is also noted that there is no land available for expansion [of the pond].

It would appear therefore that site No 3 would be preferable even though about 1000 extra feet of force main would be required (Tab 3)

- 4 A Band Council Resolution permitting the Village of Fort St James to construct a sewage line and sewage lagoon on I R #1, on Site No 3 was passed by the Nak'azdli Band Council on February 21, 1968 (Tab 4)

A second Resolution was passed on April 17, 1968, allowing Fort St. James to construct a sewage lagoon on the reserve, according to a different plan than that referred to above (Tab 7)

- 5 The DIA decided that financial arrangements for the sewage project (the DIA had to pay part of the costs) should be negotiated before approval of the first BCR (March 29, 1968, Tab 5). Negotiations took place throughout May and June, 1968. The Village of Fort St James proposed that the DIA pay for the cost of the gravity sewer to be constructed on the reserve - a total of \$40,300.00 (May 3, 1968, Tab 8)

- 6 When the Pollution Control Branch received an application for a Pollution Control Permit in May, 1968, they notified the DIA Commissioner, and requested comments (Tab 9) The Commissioner replied as follows

Our only objection to the plan is the location of the lagoon, and we have requested that it be constructed at least 1500 feet from existing housing to permit village expansion (June 5, 1968, Tab 11)

- 7 On June 4, 1968, Superintendent Roach forwarded a sketch to the Regional Superintendent, showing the new location of the sewage lagoon (sketch is not on file) (Tab 10)

- 8 The DIA's Engineering & Construction Division, on June 13, 1968, pointed out to the Commissioner that

The contribution of land for the lagoon site by the Band should also be assessed and given adequate value in any comparison of cost sharing, along with the implications of loss of useable land within say 800 ft of the lagoon (Tab 12)

He also pointed out that the costs of the sewage system would now be higher than the estimates given in the 1964 report A revised estimate and plan had been prepared by Associated Engineering Services in April (Tab 6)

- 9 By June 25, 1968, the DIA Regional Engineer requested

assurance that the items raised in your letter of June 13th have been fully considered and discussed with the Village of Fort St James (Tab 13)

The "items" referred to are the value of the land to be used for the lagoon and the loss of useable land around the lagoon These values had not been included in the cost estimate for the sewage project

- 10 On July 5, 1968, the DIA Engineering & Construction Div informed the Commissioner of two problems remaining to be solved

- 1 Is the proposed cost-sharing equitable and can the Band (with Branch assistance) finance their share, and
- 2 What actual land areas are required for sewer main, force mains or lagoon site so they can be properly described (Tab 14)

In the same letter, it was suggested that the Band lease the land required for the lagoon site to the village until the reserve is connected to the sewage system

- 11 It was determined (July 9, 1968, Tab 15) that about 25 acres of reserve land would be required for the lagoon. The actual fenced area of the lagoon was 12.46 acres (July 12, 1968, Tab 16). With regard to additional land used for sewage mains, etc

Rather than ask for 20-25 easements it was felt a legal description could be used i.e. within the road allowance of the roads shown on the said plans (Tab 15)

- 12 A report of the DIA Regional Land Use Officer, forwarded to the Indian Commissioner on July 15, 1968 (Tab 17) described the land to be used for the sewage project - 25.3 acres for the lagoon and 2.5 acres for the easement. The lagoon site was partly cleared and used for agriculture. The estimated value of the land was \$300.00 per acre, for a total value of \$8,250.00. The recommended rent per annum was \$580.00, for a 40-60 year lease, and other conditions for the lease were proposed. The Land Use Officer also made the following statement regarding the value of the land

I have no hesitation in recommending this value because it is doubtful whether with Village of Fort St. James could obtain an alternate site any cheaper (Tab 17)

- 13 The terms of the proposed 40-year lease at \$600.00 per year were approved by Band Council Resolution dated July 17, 1968 (Tab 18). The lease was to be reviewed every 10 years, and was for the lagoon area of 25.3 acres. The permit was to be granted under Section 28(2) of the Indian Act, to avoid a surrender of the land (Tab 22)
- 14 A formal lease agreement was drafted by the DIA in June/July 1969, and approved by the Fort St. James Village Council in August, 1969, subject to DIA's payment toward the capital cost of the sewage system on the reserve (Tab 23). The amount of this payment still remained to be negotiated
- 15 At a meeting in Fort St. James on October 30, 1969, the DIA agreed to pay 20% of the costs of construction of sewage works built on the reserve - a total of \$25,227. It was also decided that every domestic user on the reserve would have to pay a service charge of \$1.00 per month (Tab 24).

These terms were agreed to by Band Council Resolution of November 17, 1969 (Tab 25)

- 16 There was some confusion about what the monthly service charge was meant to cover, and the Village of Fort St. James requested that Band members either pay \$3.00 per household per month, or do their own maintenance and pay separately for any major work done by the Village (Nov. 20 1969, Tab 27)
- 17 Supt. Roach explained what the service charge was meant to cover in a letter to the Regional Engineer on November 25, 1969

during the meeting with the Village Council, it was

understood that if the users' fee was to cover the cost of operation, maintenance, etcetera, this would apply solely to that portion of the sewage system on Reserve, toward which the capital contribution was made, and that the remainder of the system would be maintained by the Band (Tab 28)

- 18 After having reviewed their 1964 report and prepared new estimates for the sewage system, Associated Engineering informed the DIA that for the amount of \$25,277

the Indian Band is assured of trunk sewer, lift station, and force main capacity up to the population equivalent of 1,000 and sewage lagoon and outfall capacity up to a population equivalent of 400 (Dec 10, 1969, Tab 29)

Additional requirements, such as sewage collection mains and connections to property lines would have to be paid for by the Band The DIA approved a budget of \$120,000 for these costs (Dec 29, 1969, Tab 30)

- 19 In April, 1970, the Village Council decided that an appropriate user fee for the sewage system for reserve residents would be \$1 50 per month, subject to review (Tab 32)

Maintenance of the sewer system on the reserve would be taken care of by the Village, but paid for by the Band In addition

the Band will be responsible to meet any repairs or flushing costs that are incurred in any portion of the system other than the main trunk line and pumping station (Tab 32)

- 20 A BCR dated April 17, 1970, states the following

[T]he Band Council will charge each customer on Reserve Three Dollars per month, half of which will be paid to the Village of Fort St James and the remainder to be used for operation and maintenance of the remainder of the sewer system on Reserve (Tab 33)

The fee paid to Fort St James could be increased after a period of two years, based on an appraisal of operation and maintenance costs

- 21 By April 29, 1970, the lease agreement had still not been signed The DIA Regional Engineer suggested to Superintendent Roach "that a revised wording should be proposed by the village, which you should then send to Ottawa for approval" (Tab 35)
- 22 The sewage system was constructed in 1970 (see file 985/8-17-21 for details of construction)
- 23 The lease agreement for the sewage lagoon and trunk line was signed on January 11, 1971 (Tab 36) The lease was for a 40 year tenancy beginning August 1, 1968, at a rate of \$600 00 per year, the rate to be reviewed

every ten years It was signed under authority of Section 28(2) of the Indian Act, and allowed the Village to construct, operate and maintain a sewage lagoon and sewage trunk line on Necoshe I R #1

- 24 By April, 1973, the Village had paid DIA rental fees covering August 1, 1968 to July 31, 1973 - a total of \$3,000 00 (Tab 37)
- 25 In July, 1974, the Village of Fort St James requested that their rent be applied to the arrears account of the Band for repairs of sewer and water lines, totalling \$4,479 97 (Tab 38)

A Band Council Resolution dated October 1, 1975 authorized payment of \$600 00 from Band Revenue to the Village, to be applied to the water/sewer account (Tab 39)

- 26 On January 26, 1976, the Village demanded payment of the sewer and water account - a total of \$3,982 14 (Tab 40)
- 27 In July, 1976, the village once again asked that the \$600 00 payment be applied to the Band's outstanding account (Tab 41)

A payment of \$600 00 to the account was authorized by a BCR dated August 18, 1976 (Tab 42)

- 28 In July, 1977, the Village once again asked that the annual rental payment of \$600 00 be applied to the Band's sewer and water account (Tab 44)
- 29 On August 23, 1977, the Village informed the DIA that the Band had paid their account in full, and that the Village and Band had entered into a new agreement which would negate any further payments by either Band or Village (Tab 45)

The enclosed "Interim Agreement" dated August 12, 1977, signed by the Mayor of Fort St James and the Nak'azdli Chief This agreement was to allow the Village to use additional land on I R #1 adjacent to the sewage lagoon for 99 years, in exchange for free water and sewage service for Band members residing on I R #1 The free water and sewage service would be provided

at such time as the water and sewer charges for the years 1977, 1976 and prior are paid for in full Maintenance of the system on the Reserve shall continue to be the responsibility of the Band (Tab 45)

The "interim agreement" also cancelled the annual payment due under the 1971 agreement, and extended the term of the 1971 agreement for 99 years (to match the new one)

Clause 6 of the interim agreement reads as follows

THAT the Band and Village will, with due dispatch, negotiate, sign and approve an Agreement acceptable to the Department

**of Indian Affairs and Northern Development, such Agreement
to contain generally the terms and conditions outlined in this
Interim Agreement (Tab 45)**

- 30 On August 29, 1977, the DIA requested payment of \$600 00 for lease of sewage lagoon from the Village (Tab 46) The Village refused to pay (Tab 47)
- 31 A Band Council Resolution dated November 9, 1977 waived the 1977-78 \$600 00 fee (Tab 48)
- 32 On November 23, 1977, the Village's solicitor provided the DIA with a draft of a proposed new permit for the use of reserve land This permit (much more detailed than the interim permit), specifies a period of 99 years for the use of the reserve land in exchange for free water and sewage services to single family residences of Nak'azdli Band members on the reserve Note that this does not include industrial, tourist and commercial developments, as the 1971 Agreement did The permit also provides for the construction of additional works on new portions of the reserve (Tab 49)
- 33 The DIA Real Estate Officer (January 18, 1978) advised the District Manager that the proposed agreement would not provide financial benefits to the Band, as it would alienate an additional 68 acres of land (for a total of 94 88 acres) He suggested that a land exchange on an equivalent value basis be considered (Tab 50)
- 34 In April, 1978, a "Sewer System Development Plan" was prepared for Fort St James by Associated Engineering Services (Tab 51)
- 35 A BCR dated August 8, 1978 waived the Village's \$600 00 rental payment (Tab 52)
- 36 On September 5, 1978, the Band met with the Village and put forward an agreement containing several new proposals that the lease be for a 60-year term, renegotiable every ten years, that the Band receive 10% of the taxation revenue for the sewer services, and that off-reserve Band members in Fort St James receive free water and sewer services (Tab 53) The village agreed to a 60-year term, but rejected the other proposals (Tab 53)
- 37 On March 19, 1979, the Band Council announced its intention to hold a general meeting of the Band members to vote on the surrender of about 65 6 acres for a 55-year lease (Tab 54) On April 24, 1979, the Band membership voted in favour of the surrender of the land for lease (Tab 55)
- 38 P C Order 1979-3383, dated December 13, 1979, accepted the surrender of 65 6 acres of I R #1 for lease (Tab 56)
- 39 A Band Council Resolution dated August 19, 1980 waived the \$1200 00 rent for 1979-80, and 1980-81 (Tab 57)

40 By December, 1981, the Band and Village had still not agreed upon the terms of the lease. A cheque for \$3,000.00 from the Village to DIA was returned to the Village (Tab 58)

41 On February 13, 1984, the Village informed Edward John, the Band's solicitor, of the following

we do not need any additional lands for sewage disposal purposes, other than those that are covered by our existing lease (Tab 59)

42 On April 17, 1984, Edward John, on behalf of the Nak'azdli Band Council, requested information from the DIA regarding the lease to Fort St. James, as well as a review and/or re-survey of lands subject to the original lease or other agreements (Tab 60). Because the Village has indicated that it no longer requires additional land for sewage purposes, the Band Council has requested that the land surrendered for sewage disposal purposes be "de-surrendered" (Tab 60).

Edward John was informed that the land could be "de-surrendered" upon submission of a Band Council Resolution (Tab 61)

43 On July 29, 1988, the DIA advised the Village that according to the 1971 lease agreement, the annual fee for the period 1988 to 1998 needed to be reviewed, negotiated and set (Tab 63). The new fee would be based on an appraisal of the land.

44 Lot 220, Necoshe I R #1, a 20 hectare site, was appraised at \$75,000 (April 3, 1989, Tab 64)

NAK'AZDLI SEWAGE SYSTEM, I.R. #1

ANNOTATIONS

1 August 7 1964

DIA file 985/8-17-21, vol 1

Village of Fort St James to Associated Engineering

This is your authority to proceed with the
preliminary sewer survey as outlined by you to the
Village Council May 6, 1964

Contact Indian Agent to see if the reserve should be included

2 August 17 1964

DIA file 985/8-17-21, vol 1

Associated Eng to Supt Presloski, Stuart Lake Agency, re report and
economic study for sewer system The cost to include the reserve
subdivision would not exceed \$800 00 A legal survey of the subdivision
should be carried out first

August 21 1964

DIA file 985/8-17-21, vol 1

Indian Commissioner to Associated Engineering Services Ltd, authorizing
the company to proceed with the preliminary report for the quoted price of
\$800 00

3 December 9 1964

DIA file 985/8-17-21, vol 1

Public Health Engineering Division to B C Indian Commissioner, enclosing
report and informing him that site chosen for the sewage pond in the report
is unsuitable

It is noted that the sewage pond is only 300 ft from the
nearest residence and that there are 13 homes within 600 ft of
it. This is somewhat close for a pond of this size

It is also noted that there is no land available for
expansion [of the pond]

It would appear therefore that site No 3 would be
preferable even though about 1000 extra feet of force main
would be required

4 February 21 1968

DIA file 985/8-17-21, vol 1

Band Council Resolution, granting permission to the Village of Fort St
James to construct a sewage line and sewage lagoon on I R #1, subject to
approval of DIA

- 5 **March 29 1968**
DIA file 985/8-17-21, vol 1
Engineering & Construction Division to Indian Commissioner, quoting from
letter from the Deputy Administrator of Lands Approval to construct
works cannot be granted until terms of settlement (financial contribution)
have been agreed upon
- 6 **April 9 1968**
DIA file 985/8-17-21, vol 1
Engineer (Assoc Eng ?) to Village Clerk, enclosing plan and cost estimate
of sewage system - an alternative proposal based on recent survey of
suitable sites on I R #1
- 7 **April 17 1968**
DIA file 985/8-17-21, vol 1
Band Council Resolution permitting Fort St James to construct sewage
lagoon on I R #1
- 8 **May 3 1968**
DIA file 985/8-17-21, vol 1
Village to DIA Supt Roach The estimated cost of the gravity sewer to be
constructed on the reserve is \$40,300 00
- 9 **May 27 1968**
DIA file 985/8-17-21, vol 1
Pollution Control Branch to Commissioner Have received application for
Pollution Control Permt from Fort St James Please forward any
comments
- 10 **June 4 1968**
DIA file 985/8-17-21, vol 1
Supt Roach to Regional Supt Devt , enclosing a sketch (not in file)
showing the new location of the sewage lagoon
- 11 **June 5 1968**
DIA file 985/8-17-21, vol 1
Commissioner to Pollution Control Branch
- Our only objection to the plan is the location of the lagoon, and
we have requested that it be constructed at least 1500 feet
from existing housing to permit village expansion
- 12 **June 13 1968**
DIA file 985/8-17-21, vol 1
Eng & Construction Div to Commissioner Request for details re cost of
sewer construction

The contribution of land for the lagoon site by the Band should
also be assessed and given adequate value in any comparison
of cost sharing, along with the implications of loss of useable
land within say 800 ft of the lagoon

3

Costs estimated in 1964 report are now higher - outline of details
Comparison of cost of "Joint System" and "Reserve Only" system Please
examine the proposal in detail and provide further information before the
BCR is approved

13 **June 25 1968**

DIA file 985/8-17-21, vol 1

Regional Engineer to DIA Ottawa The value of the land to be used for the
lagoon has not been included in cost estimate

we would request assurance that the items raised in your
letter of June 13th have been fully considered and discussed
with the Village of Fort St James

14 **July 5 1968**

DIA file 985/8-17-21, vol 1

Engineering & Construction Div to Commissioner Two problems remain to
be solved

- 1 Is the proposed cost-sharing equitable and can the Band
(with Branch assistance under the proposed water and
sewer policy) finance their share, and
- 2 What actual land areas are required for sewer main,
force mains or lagoon site so they can be properly
described

Suggest that the Band consider leasing the lagoon site to the village until
the reserve is connected to the sewage system

In addition, no one has yet spelled out what operating or
frontage charges may eventually be expected of the Reserve
residents They should certainly not be expected to pay the
same rates as the Village, because their share of the capital
cost will already have been paid

15 **July 9 1968**

DIA file 985/8-17-21, vol 1

Supt Roach to DIA Eng & Construction, enclosing plans showing location
of sewage main, lift station and sewage lagoon

Rather than ask for 20-25 easements it was felt a legal
description could be used i e within the road allowance of the
roads shown on the said plans

About 25 acres will be required for the lagoon The Lands Div will have to
draft an agreement, and a legal survey will be done when the project is
completed

16 **July 12 1968**

DIA file 985/8-17-21, vol 1

Assoc Engineering Services Ltd to DIA Reg Engineer, enclosing

drawings (not in file) Fenced area at the waste stabilization lagoons is 12 46 acres

17 **July 15 1968**

DIA file 985/8-17-21, vol 1

Regional Land Use Officer to Indian Commissioner, attaching "Land Use Report" for sewage disposal, I R #1, and recommending terms for the lease

The attached report contains a map, and describes the location and size of land required about 25 3 acres for lagoon and about 2 5 acres for easement Site chosen is on low lying area, subject to flooding, partly cleared and used for agriculture

Estimate of land value is \$300 00 per acre

I have no hesitation in recommending this value because it is doubtful whether the Village of Fort St James could obtain an alternate site any cheaper

Total value comes to \$8,250 00 Rent per annum is recommended at \$580 00 Recommend a 40-60 year lease If the village chose to pay a sum immediately rather than paying annual rent, it would be \$7,500 00 for 40 years or \$8,200 00 for 60 years

18 **July 17 1968**

DIA file 985/8-17-21, vol 1

Band Council Resolution permitting the Village of Fort St. James to construct a sewage lagoon and sewage trunk line on I R #1, for an annual rental of \$600 00, the rent to be reviewed every 10 years The BCR stipulates that the following clauses be included in the lease agreement

- 1 The Band will have the right to utilize the sewer system for all present and future residential, industrial, tourist and commercial development on the Reserve This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve
- 2 The Village of Fort St James be responsible for the maintenance of the sewage lagoon and trunk lines
- 3 In the event that the Village of Fort St James abandons the sewage system, it shall revert to the Band at no cost
- 4 The Village shall have the first option to renew the lease when it expires
- 5 The sewage site and the trunk line easement shall be kept in a husband like manner

5

- 6 The Village agrees to comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon
- 7 Any disputes which may arise are subject to arbitration by the Exchequer Court of Canada
- 8 The lagoon area be approximately 25 3 acres, more or less

19 **July 17 1968**
DIA file 985/8-17-21, vol 1
Village of Fort St James to Supt Roach, applying to lease a portion of Necoshe I R #1, and agreeing to the conditions stipulated in the above BCR

20 **July 18 1968**
DIA file 985/8-17-21, vol 1
Telex, Commissioner to Pollution Control Branch

This will advise that Indian Affairs Branch has approved in principal a lease on the Necoshe Indian Reserve No 1 in favour of the Village of Fort St James for the purpose of sewage disposal

21 **July 19 1968**
DIA file 985/8-17-21, vol 1
Pollution Control Branch to Fort St James, enclosing Provisional Pollution Control Permit authorizing discharge of treated sanitary waste to the Necoshe River (not in file)

22 **August 6 1968**
DIA file 985/8-17-21, vol 1
Admin of Lands to Commissioner Suggestion that the grant of a permit under Section 28(2) of the Indian Act be recommended for a forty-year term to avoid necessity of surrender for lease If the village agrees to this, please ask them to submit a draft agreement which complies with provisos in BCR of July 17

23 **August 7 1969**
DIA file 985/8-17-21, vol 1
Village of Fort St James to Supt Roach, attaching copy of draft agreement (in file), received from DIA Problem with Item #5, p. 2

That the Minister will have the right to utilize the sewage system for all present and future residential, industrial, tourist and commercial development on the Reserve This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve

The village council wants this section to be more specific, stating that the

Capital Cost contribution is for works already existing, and including the amount of the contribution

Other than that, the agreement is satisfactory

24 **November 3 1969**

DIA file 985/8-17-21, vol 1

Assoc Eng to Fort St James Report on meeting held in Fort St James on Oct 30 DIA has agreed to pay 20% of the costs of construction of sewage works built on the reserve, or \$25,227 The service charge to cover cost of operation will be \$1 00 per domestic user per month

25 **November 17 1969**

DIA file 985/8-17-21, vol 1

Band Council Resolution, agreeing to cost sharing the sewer system, and requesting that DIA approve expenditure of Capital Cost on the Band's behalf of \$25,227 00 Agree to \$1 00 per month per domestic user

26 **N.D.**

DIA file 985/8-17-21, vol 1

Pollution Control Branch Provisional Permit to Village of Fort St James, to discharge effluent into the Necoshe River Drawing attached

27 **Nov. 20 1969**

DIA file 985/8-17-21, vol 1

Fort St James Village Council to Assoc Eng The Band's share of the cost of sewer works is acceptable, but the monthly service charge suggested is not A more suitable charge would be \$3 00 per month Another option would be for the Band to do their own maintenance and pay for any major work done by the village

The Village Council would also like to prohibit direct hookups to the trunk lines on the Reserve and would request an engineered plan of the proposed sewer system on the Reserve be submitted to the Village Council for scrutiny

28 **Nov. 25 1969**

DIA file 985/8-17-21, vol 1

Supt Roach to Reg Engineer, attaching BCR of Nov 17 (above), and copy of letter from Fort St James of Nov 20 There seems to be confusion about what the service charge is meant to cover The village has interpreted it to mean the entire sewage system on the reserve

during the meeting with the Village Council, it was understood that if the users' fee was to cover the cost of operation, maintenance, etcetera, this would apply solely to that portion of the sewage system on Reserve, toward which the capital contribution was made, and that the remainder of the system would be maintained by the Band

- 29 **Dec. 10 1969**
DIA file 985/8-17-21, vol 1
Assoc Eng to DIA Previous report has been reviewed and estimates prepared For the amount of \$25,227

the Indian Band is assured of trunk sewer, lift station, and force main capacity up to the population equivalent of 1,000 and sewage lagoon and outfall capacity up to a population equivalent of 400

The Band would have to pay for additional requirements Sewage collection mains still need to be built - estimated construction cost is \$83,000 Service connections between the mains and the property lines will cost about \$210 each Street by street estimate is enclosed (in file)

- 30 **Dec. 29 1969**
DIA file 985/8-17-21, vol 1
Supt Roach to Reg Engineer \$120,000 has been approved in Dist budget for sewers on Necoshe I R #1 Details of construction

- 31 **January 28 1970**
DIA file 985/8-17-21, vol 1
Reg Engineer to Supt Roach, enclosing drawing from Assoc Engineering (not in file) Cost estimate for construction of sewer and service connections totals \$118,727 00 Assoc Eng will prepare drawings and specifications for the work

When completed, the documents will be forwarded to you for discussion with the Band in order to obtain a Band Council Resolution indicating their concurrence with the proposal and confirmation that the maintenance of the system will be their responsibility

Work on the domestic water system should be concluded in 1970-71 if funds are available

- 32 **April 10 1970**
DIA file 985/8-17-21, vol 1
Supt Roach to B C Regional Engineer, forwarding an invoice from the Village for \$25,227 00, to cover the Band's share of the cost of the capital construction of the sewage facility

At a meeting on April 8, 1970, the Village agreed to allow householders of the Necoshe Reserve to hook onto the main trunk line at a cost of \$1 50 per month per householder

The Village Council also agreed to maintain the reserve sewer system, but the Band would have to pay for costs of repairs in any portion of the system other than the main trunk line and pumping station

- 33 **April 17 1970**
DIA file 985/8-17-21, vol 1
Band Council Resolution, agreeing that \$1 50 per month per customer will be paid to Fort St James
- [T]he Band Council will charge each customer on Reserve Three Dollars per month, half of which will be paid to the Village of Fort St James and the remainder to be used for operation and maintenance of the remainder of the sewer system on Reserve
- After two years the fee paid to Fort St James may be increased, based on an appraisal of operation and maintenance costs
- Request also that a bylaw be prepared to allow the Band Council to collect \$3 00 per month from users of the sewer system on the reserve
- 34 **April 17 1970**
DIA file 985/8-17-21, vol 1
Band Council Resolution, approving of service charge of \$1 50 per month per house connected to sewer system to cover cost of operation and maintenance of main trunk line, lift station and sewage lagoon
- 35 **April 29 1970**
DIA file 985/8-17-21, vol 1
Reg Engineer to Supt Roach, attaching draft sample sewer by-law for the Band (not in file) With regard to the draft agreement of August, 1969
- [I]t appears that our Legal Division supplied the draft which the village commented upon We have taken no further action to amend this agreement and suggest that a revised wording should be proposed by the village, which you should then send to Ottawa for approval
- 36 **January 11 1971**
DIA file 5661-4-614-07538, vol 1
Agreement between Canada and the Village of Fort St James Under authority of Section 28(2) of the Indian Act, Chapter 1-6, RSC 1970, the Village is granted the right to construct, operate, and maintain a sewage lagoon on Lot 220 (25 18 acres) and sewage trunk line (1 70 acres) for 40 years, permittee to pay annual rent of \$600 00 to reviewed every ten years and negotiated prior to the start of each ten year period, etc
- 37 **June 26 1973**
DIA file 5661-4-614-07538, vol 1
District Real Estate Officer to Head of Land Transactions Section, stating that rental has been received from the Village for the period August 1, 1968 to July 31, 1973
- 38 **July 25 1975**
DIA file 5661-4-614-07538, vol 1
Village to District Supervisor, DIA, requesting that the rent due be

applied to the arrears account of the Nak'azdli Band for repairs to the sewer and water lines, amounting to \$4,479 97

- 39 **October 1 1975**
DIA file 5661-4-614-07538, vol 1
Band Council Resolution authorizing payment of \$600 00 to the Village of Fort St James, funds to come out of the Band Revenue account and be applied to the Water Sewer Account
- 40 **January 26 1976**
DIA file 5661-4-614-07538, vol 1
Village of Fort St James to the Nak'azdli Band, demanding full payment of the sewer and water account - a total of \$3,982 14
- 41 **July 22 1976**
DIA file 5661-4-614-07538, vol 1
Village to DIA, asking that their annual \$600 00 payment be applied to the Band's arrears account
- 42 **August 18 1976**
DIA file 5661-4-614-07538, vol 1
Band Council Resolution authorizing a \$600 00 payment to the to the water and sewage account
- 43 **December 1 1976**
Dept of Environment to Associated Engineering Services Ltd re application of Village of Fort St James dated August 12, 1976 The application is to more than double the effluent discharge without upgrading the works This is not acceptable, as the sewage outfall is already creating problems During a recent site inspection, a strong sewage odour was noted along the banks of the Necoshe River between the outfall and Highway 27
- Outlines three alternative courses of action phase out the existing works and construct new treatment facilities within Village boundaries, pipe the effluent to the Stuart River, or upgrade existing facilities
- 44 **July 18 1977**
DIA file 5661-4-614-17538, vol 1
Village to DIA requesting that the 1977 rental payment be applied to the Band's Sewer & Water Account
- 45 **August 23 1977**
DIA file 5661-4-614-07538, vol 1
Village to DIA, stating that the Band has paid its account in full, and that the village and the Band have entered into a new agreement, an agreement which will negate any further payments by either village or Band
Encloses the agreement
- The enclosed "Interim Agreement", dated August 12, 1977, is signed by the Mayor of the Village and the Chief of the Band, and witnessed with one signature

10

The agreement allows the village to use additional land on I R #1 adjacent to the sewage lagoon for 99 years in exchange for free water and sewage service for Band members residing on I R #1 Maintenance of the system on the reserve would continue to be the responsibility of the Band

The agreement also cancels the annual payments due under the 1971 agreement and extends the term on the 1971 agreement for 99 years, to match the new one

Clause 6 of the interim agreement reads as follows

THAT the Band and Village will, with due dispatch, negotiate, sign and approve an Agreement acceptable to the Department of Indian Affairs and Northern Development, such Agreement to contain generally the terms and conditions outlined in this Interim Agreement

- 46 **August 29 1977**
DIA file 5661-4-614-07538, vol 1
DIA Lands and Estates Clerk to the Village requesting payment of \$600 00 and enclosing a copy of the Indian Act Section 28 (1) respecting Agreements between members and non-members re use of Band land
- 47 **August 30 1977**
DIA file 5661-4-614-07538, vol 1
Village to DIA, Lands and Estates Clerk, refusing to pay the \$600 00 requested
- 48 **November 9 1977**
DIA file 5661-4-614-07538, vol 1
Band Council Resolution waiving the 1977-78 annual \$600 00 fee from the Village
- 49 **November 23 1977**
DIA file 5661-4-614-07538, vol 1
Village's Solicitor to DIA Regional Office enclosing a draft of proposed permit covering the Village's use of part of the Necoshe Indian Reserve The permit to be subject to the approval of the Minister of Municipal Affairs This draft specifies a period of 99 years and puts forward the permit as under authority of RSC 1970, Section 28(2) Indian Act, Chapter 1-6 Also specifies that the Village will provide water and sewer service "to single family residential premises owned and occupied by Members of the Necoshe Indian Band residing on the said reserve"
- 50 **January 18 1978**
DIA file 5661-4-614-07538, vol 1
DIA Real Estate Officer to District Manager re proposed new agreement

the proposal will eliminate the administration problems (collecting and paying dues) we have had, but the Band will not gain any financial benefits to alienate additional 68 acres of land (two permits total 94 88 acres)

11

Before approving of such a permit, DIA should consider what the "highest and best use" of the land is for now and the next 50 years, the effect of the sewage lagoon on the surrounding reserve lands, and the undesirability of this type of development on reserve lands

If the proposed development has been proved to be beneficial to, and for the interest of the Band and the public, and the site, in all respects, is the most suitable location, then the Band should be reasonably compensated. Alternatively, we should look into the possibility of land exchange on an equivalent value basis. It is a more desirable way to deal with alienation of reserve lands for public uses

51 April 17 1978

DIA file 5661-4-614-17538, vol 1
Associated Engineering Services Ltd to Village of Fort St James,
enclosing "Report on Sewer System Development Plan"

52 August 8 1978

DIA file 5661-4-614-07538, vol 1
Band Council Resolution authorizing the waiving of \$600 00 rent from the Village for 1978-79

53 September 8 1978

DIA file 5661-4-614-07538, vol 1
Village Mayor to Nak'azdli Band, in response to a Draft Agreement presented by the Band at a meeting on September 5. The Village will not agree to renegotiation of the lease every 10 years, will agree to a lease term of 50-60 years, will not agree to the Band obtaining 10% of sewer rates revenue, will not agree to Clause 7 of the proposed agreement (off-reserve Band members in Fort St James to receive free service). Enclosed is a fact sheet showing the value of service provided to the Band by the municipality and a draft lease agreement prepared by a lawyer

54 March 19 1979

DIA file 5661-4-614-07538, vol 1
"Notice of Intent", posted on the reserve, to call a general meeting on April 24, 1979, to surrender approximately 65.6 acres of land for lease, for a period not exceeding 55 years

March 23 1979

DIA file 5661-4-614-07538, vol 1
Band Council Resolution re general meeting for surrender

April 10 1979

DIA file 5661-4-614-07538, vol 1
DIA Dist Supt Economic Devt to Reg. Lands etc, advising that a general meeting of the Nak'azdli Band for surrender of the proposed lease area is planned for April 24, 1979. DIA will conduct the general meeting, on the basis that

you indicated to me in conversation that we should assume

12

approval-in-principal to this surrender, and the proposed
lease terms

- 55 **April 26 1979**
DIA file 5600-7-614
DIA District Supt Economic Development to Regional Director, Lands,
Membership & Estates, advising that 62% of the eligible electors voted in
favour of the surrender for lease for the sewage lagoon Please request
approving Order-in-Council
- Surrender documents are attached
- 56 **December 13 1979**
DIA file 5661-4-614-07538, vol 1
P C Order 1979-3383, accepting the Nak'azdli Band's surrender of 65 6
acres on I.R #1 for lease
- 57 **August 19 1980**
DIA file 5661-4-614-07538, vol 1
Band Council Resolution requesting that DIA waive the \$1,200 00 in rent
owing from the Village from August 1, 1979 - July 31, 1981
- 58 **December 9 1981**
DIA file 5661-4-614-07538, vol 1
DIA Land Officer to the Village returning a cheque (for \$3,000) as the
Band does not want DIA to accept the cheque until negotiations between the
Band and the Village are complete
- 59 **February 13 1984**
DIA file 5661-4-614-07538, vol 1
Village to Edward John, Solicitor for the Nak'azdli Band
- we do not need any additional lands for sewage disposal
purposes, other than those that are covered by our existing
lease
- 60 **April 17 1984**
DIA file 5661-4-614-07538, vol 1
Edward John, Solicitor for the Nak'azdli Band, to DIA District Office,
requesting copy of the lease with the Village, by-laws, Orders-in-Council,
etc , authorizing the lease, and any interim agreement entered into after
the execution of the original lease Because the Village has indicated that
it does not require additional land for its sewage disposal, the Band has
requested that those lands be "de-surrendered" The Band also wants a
review and/or re-survey of the land involved in the lease
- 61 **June 15 1984**
DIA file 5661-4-614-07538, vol 1
District Supt of Reserves and Trusts to Edward John, enclosing
documents requested Notes that the permit with the Village is still in
effect, and advises that the land surrender involving 65 6 acres can be
reversed upon submission of a Band Council Resolution States that 25 5

13

acres of 65 6 acres would still remain under the 40 year permit with the Village A BCR will also be required for a survey, as well as reasons for the survey

62 **June 15 1984**

DIA file 5600-7-614

District Supt Reserves & Trusts to Nak'azdli Chief & Council, informing them that a letter permit on Lot 220 still exists but has not been replaced by a lease The land can be de-surrendered by Band Council Resolution and Order-in-Council

63 **July 29 1988**

DIA file 5661-4-614-07538, vol 1

DIA District Lands Officer to the Village re Permit No 73X14167, advising that according to Clause 3 of the above permit, the annual fee for the period August 1, 1988 to July 31, 1998 should be reviewed, negotiated, and set and that DIA is awaiting the results of an appraisal to determine a "fair economic fee "

64 **April 3 1989**

DIA file 5661-4-614-07538, vol 2

Manager of DIA Appraisal Program, Real Estate Division, to Regional Office, re Appraisal of Lot 220 (the site of the sewage lagoon), Necoshe I R #1 The appraiser has concluded that the value of the 20 hectare site is currently \$75,000 00 The appraiser had difficulty obtaining comparable land sales and was required to make considerable adjustments to sales in the Vanderhoof area

THE VILLAGE OF FORT ST. JAMES
INCORPORATED 1952

FORT ST JAMES, B C
BOX 127

Released under the Access
to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

1461

August 7, 1964

Attachment No 1

Associated Engineering Services,
Suite 301,
1595 - 5th Ave.,
Prince George, B.C.

Attention J.J. Weston

Dear Sir

This is your authority to proceed with the preliminary
sewer survey as outlined by you to the Village Council May 6, 1964.
The Council by motion August 7, 1964 issued instructions to begin
the survey.

Perhaps it might be a good idea to contact Mr. W. Fresloski
the Indian Agent and see if he is still interested in including the
Reserve.

Yours very truly,

s.19(1)

AESL

Consulting Engineers

ASSOCIATED ENGINEERING SERVICES LTD.

1595 FIFTH AVENUE
PRINCE GEORGE, B.C.
TEL 463-3426

August 17, 1964

Mr. W. Presloski
Superintendent
Stuart Lake Indian Agency
1325 - 5th. Avenue
Prince George, B. C.

1462

Attachment No. 2

Dear Sir:

I wish to confirm our discussions of today's date in your office.

As you know, our firm has been authorized by the Village of Fort St. James to prepare a report and economic study for a sanitary sewer system to serve the Village. This report would include a plan showing the collection layout and the recommended system for sewage disposal.

You have advised that the Indian affairs office is interested in having this study include the Indian reserve area. We would estimate that if the survey and field work were done in conjunction with work for the Village the additional cost of the report if only service to the school is contemplated would not exceed \$300.00 and would not exceed \$800.00 if service to the whole reserve subdivision were studied. The cost basis would be on day rates as outlined in the schedule of minimum fees published by the B.C. Association of Professional Engineers.

It is noted, however, that the subdivision has not yet been legally surveyed. This work should be completed ahead of our field work if a sewer service plan for this whole subdivision is desired. Sewer service studies to the school would not require the subdivision posted.

Please advise your decision as soon as possible as our survey crews expect to complete the field work by August 30, 1964.



Yours very truly,

ASSOCIATED ENGINEERING SERVICES LTD.

D. D. Weston

cc Village of Fort St James
J. R. O'Brien

WINNIPEG

REGINA

EDMONTON

VANCOUVER

VICTORIA

Box 70, Postal Station "A"
Vancouver, B.C.
August 21, 1964

163/3-17-21
Eng.1

Associated Engineering Services Ltd.,
1595 - Fifth Avenue,
Prince George, B.C.

Attention: Mr. J. V. L. ROY

Dear Sir: Re: Leech Lake I.R. S.1 - Sewer System

Please refer to your letter of August 17th addressed to Mr. .
enclosed.

It would not be possible to have the subdivision legally surveyed
within the time specified, but there should be sufficient iron
posts from the preliminary survey to which your proposal could
be tied.

If your firm can undertake to provide a preliminary report with
plans, profiles, cost estimate and proposals for cost sharing
and connection to the Fort St. James disposal plant for the water
price, not to exceed \$100., this letter will be your authority to
proceed.

Will you please advise by return mail whether these conditions
are acceptable to you.

Yours very truly,

J.V. ROY,
Indian Commissioner for B.C.

cc: Indian Supt., Stuart Lake Agency. - enclosed your plan of sewers.

DEPARTMENT OF
NATIONAL HEALTH AND WELFARE



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to Information Act
MINISTÈRE DE LA
Communiqué en vertu de la
Loi sur l'accès à
l'information
SANTÉ NATIONALE ET DU BIEN-ÊTRE SOCIAL
Public Health Engineering Div.,
605 - 1110 West Georgia Street
Vancouver 5, B.C.

December 9, 1964.

Indian Commissioner for B.C.
Dept. of Citizenship & Immigration
P.O. Box 70, Postal Station "A"
Vancouver 2, B.C.

Attention: Mr. W.G. Robinson

Dear Sir:

Re: Sewage Disposal - Necoslie Indian
Reserve No.1

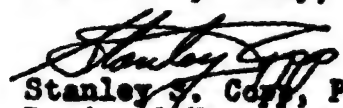
We have reviewed the "Report on Sewerage Systems to Serve the Village of Fort St. James and the Necoslie Indian Reserve No.1 prepared by Associated Engineering Services Ltd. and dated December 1964.

It is noted that the sewage pond is only 300 ft. from the nearest residence and that there are 13 homes within 600 ft. of it. This is somewhat close for a pond of this size.

It is also noted that although the ultimate population is five times the design population there is no land available for expansion. Future mechanical-type treatment would be required at considerable extra cost.

It would appear therefore that site No.3 would be preferable even though about 1000 extra feet of force main would be required.

Yours very truly,


Stanley J. Cory, P.Eng.,
Regional Engineer

SSC-CI
cc/Mr. W.R. Edmonds, Chief



DEPARTMENT OF CITIZENSHIP AND IMMIGRATION
INDIAN AFFAIRS BRANCH

BAND COUNCIL RESOLUTION

903/3-0-44, 903/0-4-44
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H Q Refs and
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l'information

NOTE The words From our Band Funds must appear in all resolutions requesting expenditures from Band Funds

NECOSLIE		FOR HEADQUARTERS USE ONLY	
COUNCIL OF THE	BAND		
AGENCY	STUART LAKE		
PROVINCE	BRITISH COLUMBIA		
PLACE	FORT ST. JAMES		
DATE	TWENTY-FIRST FEBRUARY 68		
DAY	MONTH	AD 19	YEAR

DO WE RESOLVE

THAT permission be granted to the Village of Fort St. James to construct a sewage line and sewage lagoon on our Necoslie I.R. No. 1 for the purposes of providing sewage facilities to both the Indian and non-Indian communities as shown on drawing No. 2059-NE-1 by Associated Engineers dated November 26th, 1964 subject to the approval of the Indian Affairs Branch (Site No. 3).

"NICHOLAS PRINCE"		
(Councillor)		
"FRANCESCA ANTOINE"		"PETER PRINCE"
(Councillor)		(Councillor)
"LAZARRE PLUS"		
(Councillor)		(Councillor)
"BETSY LEON"		
(Councillor)		(Councillor)
(Councillor)		(Councillor)

FOR HEADQUARTERS USE ONLY					
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indian Act Sec	5 Source of Funds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A Capital	B Revenue			
6 Recommended			7 Approved		
Date			Authorized Officer		
			Assistant Deputy Minister Indian Affairs		

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TO
A

MEMORANDUM

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CLASSIFICATION

Communiqué en vertu de la Loi sur l'accès à l'information
YOUR FILE No
Votre dossier

dian Commissioner for B.C.

OUR FILE No 163/8-17-21-1 (DE)
Notre dossier

FROM A/Chief, Engineering and Construction
De Division

DATE

March 29, 1968.

SUBJECT Sewer System and Lagoon, Necoslie Indian Reserve #1
Sujet Fort St. James, Stuart Lake Agency, B.C.

Further to recent correspondence, we have now been advised by the Deputy Administrator of Lands as follows -

"Having been requested to obtain approval "in principle" of the Band Council Resolution (No. 38-67-68) dated February 21, 1968, we require B.C.R. bearing the Chief's and Councillors' handwritten signatures.

You are requiring now "approval in principle for the Village of Fort St. James to enter the Reserve and construct the works as authorized by the Band Council".

I would see no objection to requesting approval of "the entry upon the Reserve to carry out the survey of a proposed Sewer Pipeline or System and Lagoon". However, I hardly see how we could get approval, even in principle, "to construct the works" without the terms of settlement having first been agreed upon. Such a departmental policy is set forth in Circular No. 783, dated December 7, 1967.

I understand that, in this instance, there should be some financial contribution involved and there is nothing on file showing this has been clearly established and approved. It may well be that a reply to your telex of March 19, 1968, to the B.C. Commissioner has partly resolved that problem.

I shall be glad to take action as you request once the financial involvement has been resolved."

Will you please obtain a proposal from the Village of Fort St. James so we can pursue the matter further.

W.G. Robinson, P.Eng.

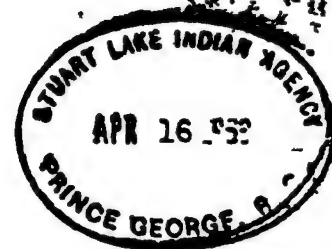
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l'information*

April 9, 1968
File 4017-020

The Village of
Fort St. James.
Box 127,
Fort St. James, B.C.

ATTENTION: Mr. N. Sutherland
Village Clerk



Dear Sirs

Subsequent to our recent survey of suitable sites on the Neacolla Indian Reserve we propose the following alternative sewerage system encompassing both the Village of Fort St. James and the Neacolla Indian Reserve No. 1. The system layout is shown on the attached plan No. 4017-020-R2. It is possible to provide oxidation ponds with ten acres of water surface area in the location shown, sufficient to serve a population of 2,000 persons. Due to the sloping topography in this area, it will be necessary to excavate a greater amount of earth than would normally be the case in a level area. It is proposed to utilize this excess excavated material to construct embankments of sufficient width and side slopes to permit them to be raised in the future to facilitate a conversion to aerated lagoons when the population of the contributing area warrants expansion of the facilities.

A breakdown of the revised estimated costs of the alternative sewerage system is shown on the attached sheet. Of the total estimated cost of \$430,000, the cost of works to be constructed on the Indian Reserve amounts to \$168,800.

Should the Village Commission decide to implement this proposal, we would be pleased to prepare applications to the Health Branch and Pollution Control Branch on their behalf.

Yours very truly,

E. C. Taylor, P. Eng.

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l'information*



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
INDIAN AFFAIRS BRANCH

BAND COUNCIL RESOLUTION

13/68-69

985/3-6-21, 985/8-17-21

Ln OR 1 8

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HQ Reference

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l'information

NOTE: The words "From our Band Funds" must appear in all resolutions requesting expenditures from Band Funds

COUNCIL OF THE		NECULIE	BAND
AGENCY		STUART LAKE	
PROVINCE		BRITISH COLUMBIA	
PLACE		NECULIE INDIAN RESERVE	
DATE	SEVENTEENTH	APRIL	AD 19 68
	DAY	MONTH	YEAR

FOR HEADQUARTERS USE ONLY

TO HERBY RESOLVE

THAT permission be granted to the Village of Fort St. John to
construct a sewage lagoon on our Neculie Indian Reserve No. 1
for the purpose of providing sewage facilities to both the Indian
and non-Indian communities as shown on Associated Engineering
Services Plan No. L017-020-IR

"PETER PRINCE" (Councillor)	"NICHOLAS PRINCE" (Chief)	
"F. UNCESCA ANTOINE" (Councillor)	"F. UNCESCA ANTOINE" (Councillor)	"LAZARE PIUS" (Councillor)
"BETSY LYON" (Councillor)	"BETSY LYON" (Councillor)	
"BETSY LYON" (Councillor)	"BETSY LYON" (Councillor)	"BETSY LYON" (Councillor)

FOR HEADQUARTERS USE ONLY					
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indian Act Sec	5 Source of Funds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A Capital	B Revenue			
6 Recommended			7 Approved		
Date			Date		
Authorized Officer			Assistant Deputy Minister Indian Affairs		

IA (38 (3 68) 7850 21 025 4662

TELEPHONE 996-8215

THE CORPORATION OF
THE VILLAGE OF FORT ST JAMES
INCORPORATED 1952

FORT ST JAMES, B C
BOX 127

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to Information Act
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l'information

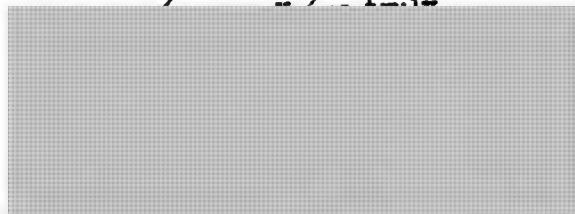
May 3, 1968

Mr. C. Roach,
Superintendent,
34 Federal Building,
Prince George, B.C.

Dear Sir.

After a meeting of the Council on May 1, 1968 they were of the opinion the proposed grant from the Department towards the sewer program should be the cost of the gravity sewer that has to be constructed on the Reserve.

You will note on the estimates from Associated Engineering Services that the cost of this line will be \$40,300.00, and this amount the Council feels would be an equitable share as a grant from the Department of Indian Affairs.



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l'information*



DEPARTMENT OF LANDS FORESTS AND WATER RESOURCES
WATER RESOURCES SERVICE

POLLUTION CONTROL BRANCH
VICTORIA, B.C.

May 27, 1968

Indian Commissioner for B.C.,
P. O. Box 70,
Postal Station 'A',
VANCOUVER, B.C.

Dear Sir

Re Proposed Sewage Disposal Facilities
Village of Fort St James

This is to advise that we have before us an application for a Pollution Control Permit from the above mentioned Village

Our understanding is that an agreement has been reached between the Village of Fort St James and the Necoslie Indians to construct a two cell sewage treatment lagoon on the Necoslie Indian Reserve No 1. The treatment facilities are to be operated by the Village and serve that portion of the Indian Reserve along the shore of Stewart Lake

If you have any comments on this proposal would you please forward them to this Department

Yours truly

R. H. Ferguson, P. Eng
Pollution Control Engineer

AFH/ej

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to Information Act*

*Communiqué en vertu de la
Loi sur l'accès à
l'information*



TO
A

Regional Superintendent, Development.

Attention: Mr. G. Boyle,
Engineering Division.

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to Information Act

Communiqué en vertu de la

Loi sur l'accès à l'information
YOUR FILE No. 985/8-17-71 (Eng.3)
Votre dossier

OUR FILE No.
Notre dossier 985/8-17-21

DATE

June 4th, 1968.

FROM
De Superintendent, Stuart Lake Agency.

SUBJECT
Sujet Sewer & Lagoon,
Necosis I.R. No. 1.

Enclosed is a sketch showing the new location of the above-noted sewage
lagoon as per our telephone conversation of today's date.

H. D. Smith
H.C. ROYCH.

ACR: kgb.

Enclosure.

Department of Lands, Forests &
Water Resources,
Water Resources Service,
Pollution Control Branch,
Parliament Bldgs.,
Victoria, B. C.

303 Federal Bldg.,
325 Granville St.,
Vancouver 2, B. C.

June 5th, 1968

705/5-17-21 (Eng.2)

Pollution Control Branch

Dear Sirs.

Re: Proposed Sewage Disposal Facilities
at Mill Lake of Fort St. James

I am in reply to your letter of June 4th regarding application
for a Pollution Control Permit for the above noted village.

As you can see it is proposed that the sewage treatment plant be
general agreement with the plan is submitted by the consulting firm.
Our only objection to the plan is the location of the plant, and we
have requested that it be constructed at least 1500 feet from existing
housing to prevent village odours.

I trust this will be the information you require.

Yours very truly,
Original signed by
N B CONNOLLY

J. V. Boyd,
Indian Commissioner for B. C.

Copies to: (1) Indian Affairs Branch - Ottawa - Attn: A/Chief, Eng. & Const. Div.
Attached is copy of Pollution Control Branch letter of May 27/68.

(2) Superintendent - Stuart Lake Agency (Attn:).



TO
A

Indian Commissioner for B.C.

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to Information Act

Communiqué en vertu de la
Loi sur l'accès à

l'information **YOUR FILE No**
Votre dossier

OUR FILE No 163/8-17-21-1(DE)
Notre dossier

FROM
De A/Chief, Engineering and
Construction Division

DATE June 13, 1968.

LD

SUBJECT
Sujet Proposed Sewer System - Necoslie I.R. No.1
Stuart Lake Agency, B.C.

ALL RASTON
- THE INDIAN
AS B.C. 11 MAILED
- H VILLAGE JOURNAL
FOR REFERENCE

Thank you for your letter of May 31st with attached proposal from the Village of Fort St. James and Band Council Resolution regarding land for construction of the sewer and lagoon.

We do not appear to have a copy of Associated Engineering Services Plan No. 4017-020-IR to which the Resolution refers and would appreciate receiving one as soon as possible. Without this it is not possible for our Lands Division to assess the implications of the Resolution.

You might also advise whether Associated Engineering have prepared a more up to date report or cost estimate since December, 1964, as we can not identify the \$40,300.00 cost referred to in the Village's letter of May 3, 1968.

Will you please ascertain whether this amount will represent the total cost to service the Reserve, or whether this will be merely our contribution to the cost of jointly used facilities. You might compare this with the cost sharing proposal outlined on page 15 of the Associated Engineering report of December, 1964.

The contribution of land for the lagoon site by the Band should also be assessed and given adequate value in any comparison of cost sharing, along with the implications of loss of useable land within say 800 ft. of the lagoon.

Your letter of March 15, 1968, outlined several reasons for approval of the proposal, and the following comments may be of use to you regarding these points

- (1) "Band will only contribute on a pro-rata basis for installation of the mainline, pumping station and lagoon."

Page 15 of the Associated Engineering Services Ltd. report dated December, 1964, shows the estimated cost of this work at \$84,960. Since then construction costs have advanced perhaps 20%. It is also now proposed to use lagoon site No.3 - requiring 1500 ft. of additional force main.

Current cost of this work is thus estimated at \$115,000. On the cost sharing basis recommended in the report, the Reserve should contribute only about \$22,000 to the cost of shared facilities.

- (2) "Connections will be provided for the Village system when the mainline is installed."

Appendix I of the report shows the 1964 cost of the Reserve collection system at \$55,400. Current cost of this work is

...2

- 2 -

estimated at \$67,000.

To this should be added the cost of 80 house services, or about \$10,000.

- (3) "Pumping station, mainline and lagoon will be maintained by the Municipality."

It would certainly be to the Band's advantage to have the Municipality carry out all maintenance. The Reserve share of the cost could be defrayed by a sewer rate levy on all houses served by the system on Reserve.

- (4) "Installation of the system for the Reserve will be considerably less expensive than an individual system."

The Branch's share of the cost of a joint system does not exceed the cost of an individual system, it is certainly advantageous to convert to the joint system.

The 1964 cost of the individual system was \$85,000. If we again add the cost of additional force main and increased construction unit prices, this would amount to about \$112,000 at today's prices. To this we can add \$10,000 for services - or a total of about \$122,000.

If we use the cost sharing formula recently proposed, the Branch subsidy would be \$1,000 (80) or \$80,000 - leaving \$42,000 to be financed by the Band.

We can thus compare the proposals as follows

	Cost to Indian Affairs Branch of -	
	<u>Joint System</u>	<u>Reserve Only</u>
1. Cost of Reserve System	\$ 67,000	\$112,000
2. Service Connections	10,000	10,000
3. Joint Section	40,300	-
	<hr/> \$117,300	<hr/> \$122,000

Depending on the actual contribution the Village expects, the joint system could be as costly but will probably be slightly cheaper than the Reserve system.

In either case the Band would have to find about \$37,000 to \$42,000 as their share of the financing under the proposed water and sewer policy, and the Branch would require \$80,000 to be budgetted.

....3

We will expect you to examine the proposal in detail and to provide further information before any action is taken here to approve the Council resolution.

A handwritten signature in dark ink, appearing to read 'W.G. Robinson', with a long horizontal flourish extending to the right.

W.G. Robinson, P.Eng.

Indian Affairs Branch - Ottawa.

Attn: /Chief, Engineering & Construction
Division

163/8-17-21-1 (DE)

965/8-17-21 (Eng.3)

Regional Engineer.

Proposed Sewer System
Necanicum I. R. #1 -
Stuart Lake Agency, Ont.

June 25th, 1968

Your letter of June 13th, 1968 has been received and a copy was
forwarded to the Regional Engineer. We also understand that you have seen in detail
the plan with the Superintendent concerning this proposed system
and have discussed the basis of costing with him. In particular,
the value of the land on which is located the lagoon, has not been
included as there is no reference to the land contribution in the
attached letter dated June 17th from the Superintendent.

The letter referred to above dated June 17th is from the Super-
intendent of the Stuart Lake Agency and is justification for the
\$40,300 capital contribution as requested by the village of Fort
James and is used on the report of the Regional Engineer.

A copy of this letter to the Superintendent, we would request
assurance that the items raised in your letter of June 13th have
been fully considered and discussed with the Village of Fort
James. The letter has not forwarded to the Superintendent until
June 25th as his letter was written prior to that date. However,
we are forwarding his letter to you for your consideration and will
advise you as soon as we have heard from the Superintendent if there
is any further consideration in the light of the letter.

Original signed by
W. J. COPLICK

C. J. Doyle, P. Eng.,
Regional Engineer.

attach.

c.c. Supt. Stuart Lake Agency.



TO
A

Indian Commissioner for B.C.

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à l'information

YOUR FILE No
Votre dossier

985/8-17-21 (Eng. 3)

OUR FILE No
Notre dossier

163/8-17-21-1 (DE)

FROM
De

A/Chief, Engineering and
Construction Division.

DATE July 5, 1968.

LD

SUBJECT
Sujet

Proposed Sewer System
Necoslie I.R. No.1 - Stuart Lake Agency

Thank you for your letter of June 28th enclosing further cost figures from the Superintendent.

There appear to be two separate but consecutive problems to be solved -

1. Is the proposed cost-sharing equitable and can the Band (with Branch assistance under the proposed water and sewer policy) finance their share; and
2. What actual land areas are required for sewer mains, force mains or lagoon site so they can be properly described.

Please refer to the comments of the Administrator of Lands quoted in my letter of March 29th.

Will you also review the cost figures on page 2 of my letter of June 13th and advise how the Band expect to finance their share or when you could budget the Branch share.

Perhaps the Band should consider leasing the lagoon site to the Village until the Reserve actually is connected to the system. This idea might be discussed with the Band.

In addition, no one has yet spelled out what operating or frontage charges may eventually be expected of the Reserve residents. They should certainly not be expected to pay the same rates as the Village, because their share of the capital cost will already have been paid.

We regret very much any delay which may be caused by thorough examination of the several alternatives, but we must have positive answers to such questions before the land can be used for this system.

W.G. Robinson, P.Eng.



MEMORANDUM

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YOUR FILE No
Votre dossier

TO
A

Indian Affairs Branch

Attention: Mr. W. Robinson
A/Chief-Engineering & Construction Division

OUR FILE No 985/8-17-21
Notre dossier

FROM
De

Mr. A.C. Roach, Superintendent,
Stuart Lake Agency,
34 Federal Building,
Prince George, B. C.

DATE July 9, 1968

SUBJECT
Sujet

Proposed Sewage System
Necoslie I. R. No. 1

Further to my recent telephone conversation with Mr. Robinson regarding the proposed sewage system on the Necoslie I. R. No. 1.

I enclose two plans No. 4017-020-K2 and 4017-020-SP. These plans show the location of the sewage main, lift station and sewage lagoon. Rather than ask for 20-25 easements it was felt a legal description could be used i.e. within the road allowance of the roads shown on the said plans. It should also be noted that approximately 25 acres will be required for the lagoon. These plans were made from Necoslie I. R. No. 1 sub-division survey No. 52908 dated May 9, 1966.

I trust the Lands Division will accept these plans and the locations shown as suitable to draft an agreement. A legal survey will be done when the project is completed.

Tenders for the project were opened July 8, 1968. I expect to see the bids by July 12th. I have discussed financing with Keith Muir, Regional Financial Manager. He states it may be possible to swing a portion of the Branch's share of capital contribution toward this project during the current fiscal year should the Indian Commissioner and the Engineering Division make the recommendation of expenditure.

It is likely I will make a trip to Regional Office during the week of July 15th-19th for further discussion with Mr. Boys, Mr. Muir and Mr. Boyle. It would be appreciated if a recommendation could be made from Ottawa before this time regarding the amount the Branch would consider as their share of capital contribution.

A.C. Roach
A. C. ROACH,
Superintendent.

ACR:rb

J 24 24 AN Comm - 22 200 01

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AESL

Const ; Engineers

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ASSOCIATED ENGINEERING SERVICES LTD.

1861 WEST 8TH AVENUE

VANCOUVER 9 B C TELEPHONE 736 7361

N A LAWRENCE B SC. P ENG
W H ROLSTON M S P ENG
S A ELLIS B A SC P ENG
J R O'BRIEN M A SC P ENG
D A WHELEN B SC P ENG
M D MACKENZIE B SC P ENG
R H NICOLSON B SC P ENG

985/8-17-21

July 12, 1968

File 4017-020

Mr G. S. Boyle,
Regional Engineer,
Indian Affairs & Northern Development Department,
Room #304, 325 Granville Street,
VANCOUVER, B C

Dear Sir

Re Village of Fort St James,
Sewerage System - 1968

We enclose for your information and records two sets of the
following drawings

4017-020-K2	Key Plan, Sanitary Sewers
4017-020-9	Sanitary Sewers
4017-020-10	Sanitary Sewers and 10" Force Main
4017-020-L1	Stabilization Lagoons
4017-020-D-1	Special Manholes, Details
4017-020-D-2	Lagoon Inlet & Outfall Piping
4017-020-P-1	Lift Stations No. 1, No 2, Sanitary Sewers
4017-020-E-1	Lift Stations No 1, No 2, Electrical

These drawings are the Contract Drawings covering that portion of the
proposed sewerage system falling within the Necoslie Indian Reserve No 1

Please note that we have indicated in red on these prints

- a) The portion of sanitary sewer and force main on
Fort Street and Necoslie Road that falls within the
reserve

/2

WINNIPEG

REGINA

EDMONTON

CALGARY

PRINCE GEORGE

VANCOUVER

VICTORIA

ASSOCIATED ENGINEERING SERVICES LTD

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l'information*

July 12, 1968

Mr G S Boyle,

- b) **The fenced area at the waste stabilization lagoons
is 12 46 acres**

**We trust that these drawings will be of assistance to you in
considering your approval for this installation**

Yours very truly,

Chief Civil Engineer

**RDW/smb
Encl.**

**cc Mr N Sutherland, Village Clerk
Village of Fort St James, B C**

cc Mr D C. Taylor, AESL, Prince George, B C

TO
A

MEMORANDUM 25683

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CLASSIFICATION

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Loi sur l'accès à
l'informationYOUR FILE No
Votre dossier

Indian Commissioner for B. C.

OUR FILE No 985/8-17-21 (D 5)
Notre dossier

DATE July 15, 1968

FROM
De

Regional Land Use Officer

JLD

SUBJECT
SujetLease Agreement
Sewage Site
Necoslie Reserve

I have reviewed the proposal for the use of a parcel of land on the above Reserve (report attached), and would recommend the following terms for the lease.

There are two types of lease which should be considered for this type of alienation. They are:

- (a) an annual rent with escalation clauses and a set term, or
- (b) a prepaid rent for a set term.

The terms for the two types of lease are as follows:

Type I

1. Annual rent of \$580 per annum.
2. Rents reviewed every 5 - 10 years (10 years acceptable in this case - see report).
3. Forty to sixty year term. Sixty years justified if financing warrants it.

Type II

Under this type of an agreement, the future annual rents for the full term are converted to one lump payment at the beginning of the lease. The cash payments would be calculated as follows:

- | | |
|---|--------------|
| 1. (a) Forty Year Period | \$ 580 p. a. |
| Annual rents | 12.8 |
| Present value of \$1 p. a. in 40 years @ 7% | \$7,424 |
| Capital value | \$7,500 |
| Rounded off | |
| (b) Sixty Year Period | \$ 580 p. a. |
| Annual rent | 14.0 |
| Present value of \$1 p. a. in 60 years @ 7% | \$8,120 |
| Capital value | \$8,200 |
| Rounded off | |

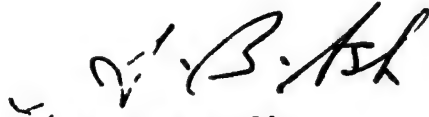
2. No rent reviews.

3. Term of 40 or 60 years acceptable for the reason stated above.

... 2

Conditions (for both types)

1. The Band will have the right to utilize the sewer system for all present and future residential, industrial, tourist, and commercial development of the Reserve.
2. The Band are not responsible for the maintenance and upkeep of the sewer lagoon or trunk lines.
3. In the event that the Village of Fort St. James abandons the sewage system, it shall revert to the Band at no cost.
4. The Village shall have the first option to renew the lease when it expires.
5. The sewage site and the trunkline easement shall be kept in a husband like manner.
6. The Village agrees to comply with all Provincial and Federal Government health and sanitation requirements in the operation of the sewage lagoon.
7. Any disputes which may arise are subject to arbitration by the Exchequer Court of Canada.


for F. J. Walchli,
Regional Land Use Officer

LAND USE REPORT

Sewage Disposal

Site - Necoslie Reserve

In compliance with a request from the Indian Commissioner for a land use report on the above proposal, I offer the following analysis and comments:

Location and Size

The proposed site is located approximately 1,200 feet east of the main road along the north bank of the Necoslie River. The size of the site is approximately 25.3 acres. In addition, approximately 2.5 acres of land is required for an easement. (See attached map - 3,900' x 25'.)

Physical Description

No physical inspection has been undertaken, but based on an aerial photograph and a verbal description by Mr. Roach, it would appear that this is a low lying area along the banks of the river and is subject to flooding. It would appear that the land was used for agriculture, and it is partly cleared.

Potential Use

The development potential of this site is limited by the low lying characteristics of the land, its location and the fact that it is subject to flooding. The economic potential of this land is for agriculture.

Value of the Land

I have not carried out any recent search of land values in the area. However, based on information on hand, it is possible to arrive at a reasonable estimate. In March 1963, Mr. A. Godfrey (A. A. C. I.) completed an appraisal for the Department on the Stuart Lake Lumber Company lease. He estimated the value of industrial land at \$800/acre. This site is located closer to the road than the subject property, and has hydro and water services available. A telephone discussion with the Provincial Assessor indicates that cleared agriculture land is selling at \$100 - \$125 an acre in the area. Associated Engineering Limited estimated the value of one of the proposed sites (No. 2 their report) on the Reserve at \$500 an acre in 1964. This site is at the mouth of the river and nearer to the highway. The trunklines would not be as long as the one required to service the proposed site, however, in many respects the sites are comparable. (It should be noted, however, that the Engineering Report) did not state the basis of their value.)

The limits of value by between \$125 - \$800 an acre. The type of land would in no way permit it to be classified as industrial land and, therefore, would not command this type of price.

If the land was exposed to sale on the open market, it would probably command \$125 - \$200 an acre. However, because of its unique location for the type of use, I believe it would have a higher value. I am, therefore, placing a value of \$300 an acre. I have no hesitation in recommending this value

. . . 2

because it is doubtful whether the Village of Fort St. James could obtain an alternate site any cheaper.

Based on three hundred dollars an acre, the value of the land is:

25.3 acres Lagoon site @ \$300/acre	\$7,590
2.2 acres easement @ \$300/acre	<u>660</u>
Total value	\$8,250

The rate of return for money is anywhere between $5\frac{1}{2}\%$ to $9\frac{1}{2}\%$. The trend in the money market is for reduced interest rate. The Provincial Government is still using a 5% rent rate. I would recommend a safe rate of 7%. The rent per annum is $\$8,250 @ 7\% = \577.50 ; rounded off to \$580 p. a.

Term

The intended use is a sewage disposal lagoon. It will be utilized by the Indian and non-Indian community alike. The sewage system will be supported by public funds. In view of these facts, a long term lease is justified - I would recommend 40 years. If the Village can show cause why 40 years is inadequate, a 60 year term is not out of line.

Rent Escalation

The Department normally requires a five year rent review period. However, in this case a ten year period would be acceptable because both parties are benefitting from the sewage system and all increased rents would be reflected in increased rates for both.

Alternate Method of Rent Payment

One alternate method of paying for the use of the land and one which might be more acceptable to the Village is to convert all future rents into a capital sum payable at the outset. If this approach is used, the capitalized rents would be:

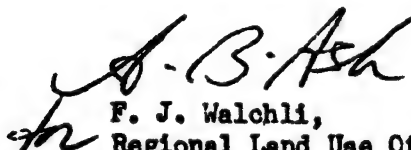
Forty Year Period

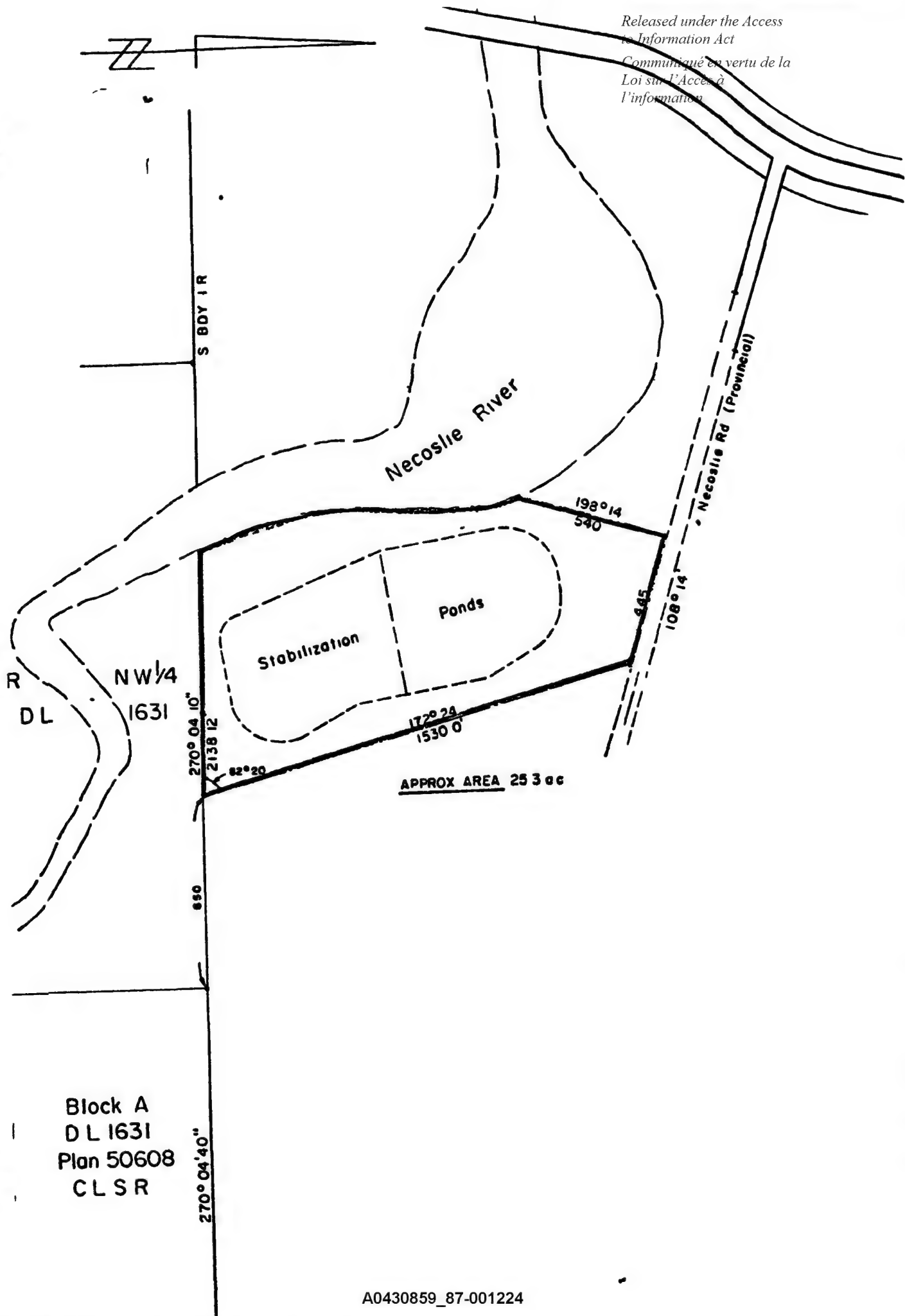
Annual rents	\$ 580 p. a.
Present value of \$1 in 40 years time @ 7%	<u>12.8</u>
Capital value	\$7,424
Rounded off	\$7,500

Sixty Year Period

Annual rents	\$ 580 p. a.
Present value of \$1 in 60 years time @ 7%	<u>14.0</u>
Capital value	\$8,120
Rounded off	\$8,200

Suitable conditions governing the use of the land should be included.


F. J. Walchli,
Regional Land Use Officer





DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
INDIAN AFFAIRS BRANCH
AND COUNCIL RESOLUTION

11/00-07 Lh 18
985/3-6-21, 985/8-17-12, 985/32-21
Released under the Access to Information Act

H Q Reference: communiqué en vertu de la
Loi sur l'Accès à
l'information

NOTE: The words "From our Band Funds" must appear in all resolutions requesting expenditures from Band Funds

NECOSLIE		FOR HEADQUARTERS USE ONLY	
COUNCIL OF THE	BAND		
STUART LAKE			
BRITISH COLUMBIA			
NECOSLIE INDIAN RESERVE			
DATE	AD 19		
SEVENTEENTH JULY 68			
DAY MONTH YEAR			

TO HEREBY RESOLVE THAT a lease be drafted permitting the Village of Fort St. James to construct sewage lagoon and sewage trunk line on the Necoslíe Indian Reserve No. 1, as shown on Associated Engineering Services Ltd., drawings No. 4017-020-SP, dated July 8th, 1968 and No. 4017-020-X2, dated May 29th, 1968.

The lease be for a forty-year term at an annual rental of Six Hundred (\$600.00) Dollars; rental to be reviewed every ten years.

THAT the agreement contain the following clauses:

- The Band will have the right to utilize the sewage system for all present and future residential, industrial, tourist and commercial development on the Reserve. This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve.
- The Village of Fort St. James be responsible for the maintenance of the sewage lagoon and trunk lines.
- In the event that the Village of Fort St. James abandons the sewage system, it shall revert to the land at no cost.
- The Village shall have the first option to renew the lease when it expires.
- The sewage site and the trunk line easement shall be kept in a husbandlike manner.
- The Village agrees to comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon.
- Any disputes which may arise are subject to arbitration by the Exchequer Court of Canada.
- The lagoon area be approximately 25.3 acres, more or less.

"NICHOLAS PRINCE"

(Chief)

"PETER PRINCE"

(Councillor)

"LAZARE PIUS"

(Councillor)

"BETSY LEON"

(Councillor)

(Councillor)

(Councillor)

(Councillor)

(Councillor)

(Councillor)

(Councillor)

(Councillor)

FOR HEADQUARTERS USE ONLY					
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indi n Act Sec	5 Source of Funds
	A Capital	B Revenue			<input type="checkbox"/> Capital <input type="checkbox"/> Revenue
6 Recommended			7 Approved		
D 14 Authorized Officer			Date Asst. Deputy Minister Indian Affairs		

1A 138 (3 68) 7530 21 023 4662

Released under the Access
to Information Act
Fort St. James, B.C.
Box 127.
Communiqué en vertu de la
Loi sur l'Accès à
l'information
July 17th, 1968.

Superintendent,
Stuart Lake Indian Agency,
34 Federal Building,
PRINCE GEORGE, B.C.

Dear Sir:

Please consider this as our application to lease a portion of the Necoslie Indian Reserve No. 1 as shown on Associated Engineering Services Ltd., drawings No. 4017-020-SP, dated July 8th, 1968 and No. 4017-020-K2, dated May 29th, 1968, the lagoon area containing approximately 25.3 acres, more or less.

It is requested the agreement be for a forty-year term with an annual rental of \$600.00, rental to be reviewed every ten years.

We would be agreeable to having the following clauses within the lease:

1. The Band will have the right to utilize the sewage system for all present and future residential, industrial, tourist and commercial development on the Reserve. This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve.
2. The Village of Fort St. James be responsible for the maintenance of the sewage lagoon and trunk line.
3. In the event that the Village of Fort St. James abandons the sewage system, it shall revert to the Band at no cost.
4. The Village shall have the first option to renew the lease when it expires.
5. The sewage site and the trunk line easement shall be kept in a husbandlike manner.
6. The Village agrees to comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon.
7. Any disputes which may arise are subject to arbitration by the Exchequer Court of Canada.

Yours very truly,

Clerk.
The Village of Fort St. James.

*Released under the Access
to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

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POLLUTION CONTROL BRANCH
DEPT OF LANDS FORESTS AND WATER RESOURCES
PARLAMENT BLDGS
VICTORIA BC

JULY 18/68

7-42

FILE NO 935/3-17-21

ATTN MR C J KEENAN

THIS WILL ADVISE THAT INDIAN AFFAIRS BRANCH HAS APPROVED IN
PRINCIPAL A LEASE ON THE NECOSLIE INDIAN RESERVE NO 1 IN FAVOUR OF
THE VILLAGE OF FORT ST JAMES FOR THE PURPOSE OF SEWAGE DISPOSAL

J V BOYS INDIAN COMMISSIONER FOR BC

IAND VCR

27833

485/8-17-21

REGISTERED

July 19, 1968

The Corporation of the Village
of Fort St. James
P.O. Box 127
FORT ST. JAMES, B.C.

COPY

Attention: Mr. W. Sutherland,
Clerk

Dear Sir:

We are pleased to enclose a copy of Provisional Pollution Control Permit #239P authorizing the discharge of treated sanitary wastes from the Village of Fort St. James and a portion of the Hecolien Indian Reserve #1 to the Hecolien River in accordance with your application.

We are also enclosing for your reference, a copy of the Pollution Control Act, 1967, and Regulations, and amendments thereto.

Yours truly,



C.J. Keenan, P. Eng.
Director of Pollution Control

RHP:kmb

Encl. (5)

cc: Associated Engineering Services Ltd.
Dept. of Indian Affairs & Northern Development

(no encls)

{ " " }



TO
A

MEMORANDUM

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

CLASSIFICATION

YOUR FILE No
Votre dossier

OUR FILE No 163/8-17-21-1
Notre dossier (ALS4)

DATE August 6, 1968.

FROM
De

Administrator of Lands

JLB

SUBJECT
Sujet

Sewage Lagoon,
Necolie I.R. No. 1

I wish to refer to Agency letter of July 17, 1968 together with Band Council Resolution No. 17/68-69 dated July 17, 1968 in connection with the above noted subject.

I note the aforesaid Resolution refers to the grant of a lease for a forty-year term. Such a long term lease would have to be preceded by a surrender for lease and I assume it is intended to obviate this long procedure. If so and if acceptable to the Corporation of the Village of Fort St. James, we could, when the plan of Survey has been approved by the Surveyor General, recommend the grant of a permit under Section 20(2) of the Indian Act for a forty-year term.

If the Village Authorities agree to the foregoing, will you please ask them to submit a draft agreement suitable for their purpose, said draft agreement to comply, among other things, to the provisos inserted in the aforementioned Band Council Resolution. We would then review the draft agreement and make the amendments we may deem necessary.

The Surveyor General of Canada has informed us he has not yet received an application for survey instructions. This matter should be pointed out to the Corporation.

J. H. Macdonald

*cc. Superintendent
Stewart Lake Agency.*

THE CORPORATION OF
THE VILLAGE OF FORT ST. JAMES
 INCORPORATED 1952
 DRAWER 640
 FORT ST JAMES, B.C.

Released under the Access
 to Information Act

Communiqué en vertu de la
 loi sur l'accès à
 l'information

August 7, 1969

Mr. A C. Roach, Superintendent,
 Stuart Lake Indian Agency,
 34 Federal Building,
 Prince George, B.C.

Dear Sir

On Wednesday August 6, 1969 the Village Council had the opportunity of going over the draft agreement between the Necoslie Reserve and the Village, this is the one you submitted and I attach a copy for your ready reference. You will note that item 5 page 2 is presenting problems.

The Council would wish this section to be more specific and state that the Capital Cost contribution will be for works already existing and in the ground. They also felt the amount of the contribution should be included in the wording. Other than that everything seems to be in order.


 Clerk.



985/8-17-21-1 (ALS 4)

J
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F
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THIS AGREEMENT made in triplicate this

day of..... .. A D., 19..

BETWEEN

Her Majesty the Queen, represented
herein by the Minister of Indian Af-
fairs and Northern Development,
hereinafter called the "Minister",

OF THE FIRST PART,

AND -

The Corporation of the Village of
Fort St James, in the Province of
British Columbia,
hereinafter called the "Permittee",

OF THE SECOND PART.

WHEREAS the Permittee has applied to use and occupy a part of
Necolas Indian Reserve No One (1) in the Province of British Columbia.

AND WHEREAS the Council of the Necolas Band of Indians for
whose use and benefit the said Reserve has been set apart has, by resolution
dated July seventeenth, 1969, recommended approval of the application.

NOW THEREFORE the Minister under authority of Section
28(2) of the Indian Act, Chapter 140, Revised Statutes of Canada, 1952
doth hereby grant the Permittee, its successors and assigns the right to
a) construct, operate and maintain a sewage lagoon and sewage trunk line
on the lands being on Necolas Indian Reserve number one in the Province of
British Columbia, as the said area required for sewage lagoon and sewage
trunk line may be more particularly described as follows

DESCRIPTION

b) generally to do all acts necessary and incidental to the business of the
Permittee in connection with the foregoing

IT IS AGREED AND UNDERSTOOD that the aforesaid permit is granted under the Access to Information Act / en vertu de la Loi sur l'accès à l'information

is granted on the following conditions to which the Permittee agrees:-

1. That the Permit shall be for a term of forth (40) years from the first (1st) day of August, 1968, to the thirty-first (31st) day of July, 2008.

2. That the Permittee shall pay the sum of Six Hundred (\$600.00) dollars on or before the execution hereof, as rental for the first year and thereafter annually in advance, the sum of Six Hundred (\$600.00) dollars for the next nine (9) years and thereafter during the remainder of the term as is herein provided by paragraph 3 hereunder.

3. The rental for the ten (10) year period commencing August 1st, 1978 and for each succeeding ten (10) year period of the term shall be such rental as may be agreed upon between the Minister and the Permittee.

4. If the parties hereto fail to agree to the rental for the ten (10) year period commencing August 1st, 1978, or for any subsequent ten (10) year periods at least three (3) months prior to the commencement of such periods or in the event that the parties fail to agree on any matter requiring the agreement of the parties either party may refer the rental to be paid or any matter requiring agreement to the Exchequer Court of Canada for determination.

5. That the Minister will have the right to utilise the sewage system for all present and future residential, industrial, tourist and commercial development on the Reserve. This right to be subject to negotiation and payment toward the capital cost of the sewage installation within the boundaries of the Reserve.

6. That the Permittee shall be responsible for the maintenance of the sewage lagoon and trunk line.

7. That in the event that the Permittee abandons the sewage system, it shall revert to the Minister at no cost.

8. That the Permittee shall have the first option to renew the permit when it expires.

9. That the Permittee shall keep the sewage site and trunk line in a husbandlike manner.

10. That the Permittee agrees to comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon and trunk line.

11. That the rights hereby granted shall be used by the Permittee for the purposes foresaid and for no other purpose.

12. That it shall be lawful for the Minister or any person thereunto authorized by him at all reasonable times to enter upon the right-of-way for the purpose of examining the condition thereof.

13. That the Permittee will at all times hereafter indemnify and keep Her Majesty indemnified against all actions, claims and demands that may be lawfully brought or made against Her Majesty by reason of any act or omission by the Permittee in the exercise or purported exercise of the rights hereby granted.

14. That the Permittee shall not assign or sublet the rights hereunder without the written consent of the Minister.

15. That this permit may be terminated by the Minister if the Permittee is in default in the performance of any of the conditions herein contained for a period of thirty days or longer.

16. That the Permittee will pay and discharge all rates, taxes, duties and assessments whatsoever now charged or hereafter to be charged upon the said permit area or upon the said Permittee or occupier in respect thereof or payable by either in respect thereof.

IT IS FURTHER AGREED that this permit shall be subject to the provisions of the Indian Act and Regulations established thereunder, which may be now in force or which may hereafter be made and established from time to time in that behalf by the Governor in Council.

AND IT IS FURTHER HEREBY STIPULATED AND AGREED that notwithstanding anything to the contrary herein contained, this agreement shall not be deemed to set up a tenancy by implication or otherwise.

IN WITNESS WHEREOF THE parties hereto have set their hands.

SIGNED AND DELIVERED
in the presence of

.....

.....
As to the signature of the Permittee Permittee

AESL

Consulting Engineers

ASSOCIATED ENGINEERING SERVICES LTD

303 1595 FIFTH AVENUE

PRINCE GEORGE B C

TELEPHONE 553 1610

N A LAWRENCE B Sc P Eng
W H ROLSTON M Sc P Eng
S A ELLIS B A Sc P Eng
J R O'BRIEN M A Sc P Eng
D A WHELEN B Sc P Eng
R H NICOLSON B Sc P Eng

91174

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to Information Act

Communiqué en vertu de la

Loi sur l'accès à
l'information

985/8-17-21

November 3rd, 1969

Village of Fort St James
P O Box 127
Fort St James, B C

ATTENTION Mr N Sutherland
Village Clerk

Dear Sir

At the meeting held in Fort St James on October 30th, 1969, with representatives of the Village Council, the Necoslie Indian Band, the Department of Indian Affairs and Northern Development and A E S L in attendance, it was agreed that the amount of money to be contributed to the Village by the Indian Band toward the cost of providing trunk sewers and treatment facilities would be worked out by Mr W G. Robinson, P Eng of the Technical Services Branch and myself. The basis for cost sharing was agreed to be 20% of the cost of the Sewer Mains, Pump Station, and Treatment facilities built on the Necoslie Reserve in 1968 by agreement with the Indian Band.

The costs of construction of sewerage works on the Necoslie Indian Reserve in 1968 were as follows

1	Sewage Lift Station	\$29,975
2	Force Main	24,576
3	Gravity Sewer Main	38,542
4	Stabilization Lagoon, Clearing, Earth Work, Excess Road, Fencing, Outfall and Special Manholes	36,800
5	Engineering	14,288
6	Legal Fees and Legal Surveys	2,150
7	Interim Financing	5,030
	Total	\$151,361

REGINA

EDMONTON

CALGARY

PRINCE GEORGE

VANCOUVER

VICTORIA

ASSOCIATED ENGINEERING SERVICES LTD

2

The above figures are taken directly from the Village Submission to Central Mortgage and Housing Corporation for a loan under the National Housing Act. In the case of the gravity sewer main and the interim financing, the figures have been reduced from those submitted in support of the C M H C loan to represent only those portions of sewer and financing costs respectively that apply to the Necoslie Indian Reserve.

The total cost of \$151,361 is subject to a Federal forgiveness equal to 1/6 of the cost, which results in a net cost of \$126,134. The Indian Band share of this at 20% amounts to \$25,227. The 20% share would assure the Indian Band of trunk sewer, lift station, and force main capacity up to a population equivalent of 1000 persons, and sewage lagoon and outfall capacity up to a population equivalent of 400 persons. At the time that the sewage flows from the Indian Reserve exceeded these capacities further contributions would be expected from the Indian Band to provide for their additional needs.

On the subject of a monthly service charge to be paid by the Indian Band residents to cover the cost of operation and maintenance of the trunk mains, sewage lift station, force main and lagoons, it was felt that a service charge of approximately \$1.00 per domestic user per month should be adequate to cover this cost.

We trust that the above is in keeping with the agreements made at the meeting. If there is anything more that you require please let me know.

Yours very truly,

D C TAYLOR, P. Eng

cc Mr W G Robinson
Technical Services

Necoslie Indian Band
Attn: Chief Nick Prince

/111



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

BAND COUNCIL RESOLUTION

53/69-70
985/3-6-21,985/8-17-21,985/28-7-Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

NOTE: The words "From our Band Funds" must appear in all resolutions requesting expenditures from Band Funds.

COUNCIL OF THE	NECOSLIE	BAND	FOR HEADQUARTERS USE ONLY
AGENCY	STUART LAKE LAKES DISTRICT		
PROVINCE	BRITISH COLUMBIA		
PLACE	NECOSLIE INDIAN RESERVE		
DATE	17 MAY	NOV	AD 19 69 YEAR

DO HEREBY RESOLVE:

THAT we agree to the cost sharing of the Sewer system to be used jointly by the Necoslie Band and the Village of Fort St. James as outlined in a letter addressed to the Village of Fort St. James, dated November 3, 1969 from Mr. D.C. Taylor, Associated Engineering Services Ltd.

We further request the Indian Affairs Branch to approve the expenditure of Capital Cost on our behalf of \$25,227.00 we agree the \$1.00 per domestic user per month is a fair charge.



Pat Prince
(Councillor)
Betty Lewis
(Councillor)

Michael Lewis
(Chief)

Lyman Lewis
(Councillor)
(Councillor)
(Councillor)
(Councillor)
(Councillor)

FOR HEADQUARTERS USE ONLY					
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indian Act Sec	5 Source of Funds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A Capital	B Revenue			
6 Recommended			7 Approved		
Date _____ Authorized Officer _____			Date _____ Assistant Deputy Minister _____		

LA 155 (3-64) 7530 21 085 4608

PROVISIONAL PERMIT

The Corporation of the Village of Fort St. James

(Name.)

P.O. Box 127, Fort St James, B.C

(Address) The Corporation of the Village of
and The Nacosse Indian Reserve of
(Plant factory municipality etc.)

located at **Fort St. James, B C.**

to the conditions set forth in any appendix attached hereto

(e) The approximate point of discharge to the Necoslie River is located as shown on the attached plan

(b) The quantity of effluent which may be discharged is an average of 120,000 g.p.d.

(c) The characteristics of the effluent shall be at all times equivalent to or better than an average of
suspended solids 85 mg/l, total solids 500 mg/l, 20°C B.O.D. 75 mg/l; M
coliform bacteria 1×10^6 per 100 ml.

(d) The works authorized to be constructed are a two cell stabilization pond and outfall sewer approximately located as shown on the attached plan.

(c) The land from which the effluent originates and to which this permit is appurtenant is the Corporation of the Village of Fort St. James and a portion of the Necanicum Indian Reserve #1 as shown on the attached drawing No. 4017-020-SK-1.

(f) ~~THIS PERMIT IS VALID FOR THREE (3) YEARS FROM THE DATE OF ISSUE~~ This Provisional Permit is valid for three (3) years from the date of issue.

(g) The Permittee shall not fail to retain sufficient land suitable for the works proposed and future works requirements.

POLLUTION CONTROL

BOUNDARY OF AREA TO BE SERVED BY PROPOSED SEWERAGE SYSTEM

VILLAGE OF FORT ST JAMES

STUART LAKE

PROPOSED SUBDIVISION

PROPOSED HOSPITAL SITE

NECOSLIE INDIAN RESERVE No. 1

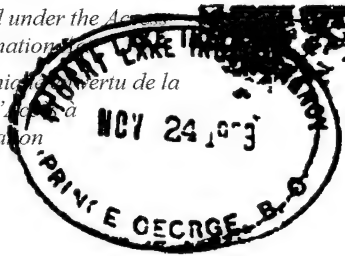
STUART RIVER

NECOSLIE RIVER

WASTEWATER STABILIZATION LAGOONS
TOTAL WATER SURFACE AREA 10 ACRES

CELL 1

CELL 2



November 20, 1969

D. Taylor, P. Eng.,
Associated Engineering Services Ltd.,
303 - 1595 - 5th Ave.,
Prince George, B.C.

Dear Mr. Taylor:

After reading your letter dated November 3, 1969 to the Village Council, they expressed the opinion that the Nescolie Band share of the total cost of the sewer works on the Nescolie Indian Reserve would be acceptable on the basis outlined in the letter.

The matter of the monthly service charge to be paid by the Indian Band, the Council felt was inadequate and would not be sufficient to pay the upkeep of their portion of the mains, pump station, and lagoons. The Council as a whole was agreed that a \$3.00 charge would be more equitable, that is if the Village crew is to maintain the entire Reserve sewer system. Some did express the view that it would be better to have the Band Council do their own maintenance and any major work performed by the Village on the Reserve would be charged at cost.

The Village Council would also like to prohibit direct hookups to the trunk lines on the Reserve and would request an engineered plan of the proposed sewer system on the Reserve be submitted to the Village Council for scrutiny.

Yours very truly,

Clerk

cc
C. Roach, Superintendent
Stuart Lake Indian Agency

Cliff Do you think W.A. Robinson requires a copy of this letter
W.A.



TO
A

MEMORANDUM

Released under the Access
to Information Act

CLASSIFICATION

Communiqué en vertu de la
Loi sur l'accès à
l'information

YOUR FILE No
Notre dossier

985/8-17-21 (TD)

OUR FILE No
Notre dossier

985/8-17-21

DATE

November 25th, 1969.

FROM
De

Superintendent-in-Charge,
Lakes District.

SUBJECT
Sujet

Necoslie Indian Reserve No. 1 --
Sewage Disposal Agreement.

-- Attached is a copy of a Band Council Resolution dated November 17th, 1969 which gives approval to the recommendations concerning capital contribution and users' fees recommended in Associated Engineering Services' letter of November 3, 1969.

-- We are also sending a copy of the Village of Fort St. James' reply to Associated Engineering Services in which they indicate that the capital contribution is acceptable but that the service charge of \$1.00 per month should be increased to \$3.00 per month. In the penultimate paragraph of Mr. Taylor's letter he indicates that the \$1.00 service charge is to cover the cost of operation and maintenance of the trunk mains, sewage lift stations, force main and lagoons. In the Villages letter, it appears that they interpret this to mean the entire sewage system on Reserve. We recall that during the meeting with the Village Council, it was understood that if the users' fee was to cover the cost of operation, maintenance, etcetera, this would apply solely to that portion of the sewage system on Reserve, toward which the capital contribution was made, and that the remainder of the system would be maintained by the Band.

Would you please advise if this is correct and give us your views on this matter.

CSJW:kgb.

Att.--2.

(C. Roach)
A.C. ROACH,
SUPERINTENDENT-IN-CHARGE.

AESL

Cons. & Engineers

ASSOCIATED ENGINEERING SERVICES LTD.

303 - 1595 FIFTH AVENUE PRINCE GEORGE B C TELEPHONE 563 1616 TELEX 047 6781

Released under the Access
to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

N A LAWRENCE B SC PENG
B A ELLIS B A SC PENG
W H ROLSTON M S PENG
D A WHELEN B SC PENG
J R O'BRIEN M A SC PENG
R H NICOLSON B SC PENG

93-52

December 10, 1969

1 -

985/8-17-21-1

Dept of Indian Affairs
and Northern Development
Indian Affairs Branch
1303 Federal Bldg
325 Granville Street
VANCOUVER 2, B C

ATTENTION Mr F A Clark
Regional Director
British Columbia-Yukon Region

Dear Sirs

Re Necoslie Indian Reserve #1
Sewerage System

As authorized in your letter dated November 14, 1969, we have reviewed our previous report on sewers for the Necoslie Indian Reserve #1 dated December 1964, and have prepared estimates of the cost of completing the sewerage works within the built up portion of the Reserve

The Village of Fort St James, in 1968, constructed a sewer outfall main, lift station, force main, and waste stabilization lagoons on Indian Reserve property as shown on the attached drawing 4024-906-R At a meeting held in Fort St James on October 30, 1969, representatives of the Village, the Necoslie Indian Band, the Dept of Indian Affairs and AESL agreed to a method of cost sharing of the sewer works located on Necoslie Reserve property as outlined in our letter of November 3, 1969. The cost to the Indian Band amounts to \$25,227 For this amount the Indian Band is assured of trunk sewer, lift station, and force main capacity up to the population equivalent of 1,000 and sewage lagoon and outfall capacity up to a population equivalent of 400 When the sewage flows from the Indian Reserve exceeds these capacities it is expected that further contributions would be expected from the Indian Band to provide for their additional requirements

The sewage collection mains that remain to be built are essentially the same as shown on our plan No 2859-RE-1 that accompanied our 1964 Report The exception to this is that the sewer line south of Prince Street on the north side of the highway has been deleted upon the suggestion of Mr. W G Robinson of the Technical Services Branch. The reason for this is that there are presently no dwellings in this area

VANCOUVER

VICTORIA

PRINCE GEORGE

EDMONTON

CALGARY


REGINA

The estimated construction cost of \$83,000, including an allowance of 20% for engineering and contingencies is broken down street by street on an attached sheet. Service connections between the mains and the property lines would be in addition to this amount. We estimate that service connections would cost approximately \$210 each.

No attempt has been made at this time to prepare a probable annual balance sheet since the extent of the program and the number of users is indefinite. However, following the procedures outlined in our 1964 Report and using the street by street cost breakdown, the annual expenditure and the related revenue required can be readily determined. Should you wish us to assist you in this regard we would be pleased to do so when you have established the extent of the service and the probable number of users.

We trust that this brief report is all that you require at this time. However, should you wish further information please do not hesitate to call on us.

Yours very truly,


D C Taylor, P Eng

DCT/fld

STREET BY STREET ESTIMATE

ON	FROM	TO	SIZE	ESTIMATE
Fort St	Pump Station	Dulian Street	8 in	\$ 3,480
Easement	Fort & Dulian St	Lane S E Dulian	8 in	2,140
Lane S E Fort	Easement	Opposite Lot 85	8 in.	2,590
Dulian St.	Fort St.	Lane W. of Fort St	8 in.	2,140
Lane W Fort	Dulian	Antoine	8 in	7,580
Easement	Fort St	Charles St	8 in	3,300
Easement	Charles St	Lane E. Charles	8 in	1,700
Lane E Fort	Easement	Hiway Access Rd	8 in	2,230
Easement	Fort St.	Lane E Fort	8 in.	1,700
Lane E. Hiway	Easement	Opposite Lot 99	8 in	3,030
Prince Street	Fort St	Hiway Access Rd	8 in	7,670
Charles St	Easement	Hiway Access Rd	8 in	11,600
Lane E Charles	Easement	Lane North Prince	8 in.	3,700
Hiway Access Rd	Prince	Kwah	8 in	16 310
				<hr/>
				\$ 69,170
				<hr/>
				plus 20% E & C 13,830
				<hr/>
				TOTAL \$ 83,000
				<hr/>

SERVICE CONNECTIONS

Cost of each service	\$ 175
plus 20% E & C	35
<hr/>	
TOTAL	\$ 210
<hr/>	



MEMORANDUM

Released under the Access to Information Act
CLASSIFICATION

Communiqué en vertu de la
Loi sur l'Accès à
l'information

TO
A

C. Regional Engineer.

OUR FILE No 985/8-17-21 &
Votre dossier 985/8-2-21-1.

OUR FILE No 985/8-17-21
Notre dossier 985/8-2-21-1.

DATE

December 29th, 1969.

FROM
De

Superintendent-in-Charge,
Lakes District.

SUBJECT
Sujet

Sewage System -
Necoslie I.R. No. 1.

An amount of \$120,000.00 has been approved in this District's budget for the 1970-71 fiscal year to construct a sewage collection system within the Necoslie Indian Reserve No. 1.

You are aware that during the past two years we have had a domestic water project on this Reserve. This year it was cut short due to weather conditions. There were funds remaining in the project but I believe Regional Office re-allocated the funds to another project and responsibility centre. No funds have been allocated for a continuance of the project at Necoslie Indian Reserve No. 1 for the 1970-71 fiscal year.

We do not have a map or plan of the Necoslie Reserve showing where the new water system has been installed. Mr. MacIntyre, Construction Supervisor is to supply one. Meanwhile, he states you have such a plan.

My concern is that you may be planning a sewage installation where water has not yet been laid. As I understand it, a sewage main should not be left buried unless water is available to flush through same.

I believe United Engineering are drafting a new project design on the proposed system. Would you please advise if the plan is to cover only the area presently served with water or if there will be an immediate need to serve some additional area with water services.

ACR:kgb.

J.C. ROACH,
SUPERINTENDENT-IN-CHARGE.

MEMORANDUM

CLASSIFICATION

Superintendent-in-charge,
Lakes District.

YOUR FILE No
Votre dossier
985/8-17-21
985/8-2-21-1
OUR FILE No
Notre dossier
985/8-2-21-1
985/8-17-21 (TDE.3)
DATE

FROM
De

B.C. Regional Engineer.

FOLD

SUBJECT
Sujet

Domestic Water and Sewer Systems
Necoslis Indian Reserve #1 -

January 28, 1970

This is further to your memorandum dated December 29th, 1969 regarding the proposed sewer system and the existing domestic water system.

The enclosed Drawing No. 4024-906.R from Associated Engineering shows the area to be served by the proposed sewer system. As we do not have a plan showing where the new water system has been installed, we cannot determine whether any part of the sewer will serve an area which does not at present have water. Would you please request Mr. MacIntyre to provide us with such a plan together with a cost estimate of outstanding work. However, it is proposed to install the sewer system as planned in order to provide a complete system and avoid inefficiencies which occur when a project is fractionized. Homes which are not at present serviced with water will delay hook-up to the sewer. The \$120,000 approved in the 1970-71 budget should be adequate for this work according to an estimate provided by Associated Engineering. The estimate is as follows: -

The Band's cost of the shared facilities with the Village of Fort St. James	\$ 25,227.00
<u>Estimated</u> construction cost of the sewer as shown on enclosed Plan No. 4024-906.R including engineering and contingencies	<u>81,000.00</u>
T o t a l -	\$ 106,227.00
Service connection to within 3 feet of dwellings -- say * 50 @ estimated cost of \$210.00 each	<u>10,500.00</u>
	\$ 116,727.00

* Note -- Please advise whether this is the correct
number of dwellings that would connect to
the sewer system.

... 2

Supt-in-charge,
Lakes District

- 2 -

Jan 28/70

The hook-up from the service connection, which is terminated within 3 feet of the house, to the house plumbing, will be the responsibility of the individual land members. Wyes will be provided at empty lots on the main trunk sewer for future homes.

Associated Engineering are being instructed to prepare full working drawings and specifications for this work. When completed, the documents will be forwarded to you for discussion with the Band in order to obtain a Band Council Resolution indicating their concurrence with the proposal and confirmation that the maintenance of the system will be their responsibility.

With regard to the uncompleted domestic water system, it is proposed that the work should be concluded during 1970-71 if funds can be provided from the existing budgets. We do not know, until Mr. MacIntyre's report is received, how much is involved but it is our understanding that only a small amount of work remains to be completed on the domestic water system. Please advise. If funds cannot be provided in 1970-71, you should include this work in your 1971-72 budget according to priorities.

Original signed by
A J KENNEDY

W. G. Robinson, P. Eng.,
B.C. Regional Engineer.

Copy: Director of Technical Services,
O t t a w a.



MEMORANDUM

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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information

CLASSIFICATION

TO
A

B.C. Regional Engineer.

YOUR FILE No
Votre dossier 985/8-17-21 TAS.

OUR FILE No
Notre dossier 985/8-17-21

DATE

April 10th, 1970.

FROM
De

Superintendent-in-Charge,
Lakes District.

SLD

SUBJECT
Sujet

Sewage System - Necoslie I.R. No. 1.

Please refer to your memorandum of March 18th, 1970, file 985/8-17-21 TAS.

As requested in the above-mentioned memorandum I am forwarding an invoice received from the Village of Fort St. James in the amount of \$25,227.00, the Band's share toward the cost of the capital construction at the sewage facility within the Reserve boundaries.

At a meeting held April 8th, 1970, the Village of Fort St. James agreed to allow householders of the Necoslie Reserve to hook onto their main trunk line at a cost of \$1.50 per month per householder. I am awaiting copies of the Council's minutes and will forward same when received. The Village has also agreed to provide maintenance to the sewage collection system for the Indian Band on a cost of repair programme; that is, there will be no monthly charge other than the \$1.50 payable to the Village of Fort St. James but the Band will be responsible to meet any repairs or flushing costs that are incurred in any portion of the system other than the main trunk line and pumping station.

Enclosure--1.

A.C. Roach
A.C. ROACH,
SUPERINTENDENT-IN-CHARGE.

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to Information Act*

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Loi sur l'Accès à
l'information*

3/70-71 Chronological Information Act
985/3-6-21, 985/8-17-21

Communiqué en vertu de la

H Q Référence sur l'Accès à
l'information

BAND COUNCIL RESOLUTION

NOTE: The words From our Band Funds must appear in all resolutions requesting expenditures from Band Funds

COUNCIL OF THE	NELOSLIE	BAND	FOR HEADQUARTERS USE ONLY	
AGENCY	LAK' DISTRICT			
PROVINCE	BRITISH COLUMBIA			
PLACE	NECOSLI RESERVE			
DATE	SEV HTE MTH	APRIL	AD 19	70
	DAY	MONTH	YEAR	

DO HEREBY RESOLVE:

THAT One Dollar and Fifty Cents per customer will be paid each month to the Village of Fort St. James by the Band Council.

THAT the Band Council will charge each customer on Reserve Three Dollars per month, half of which will be paid to the Village of Fort St. James and the remainder to be used for operation and maintenance of the remainder of the sewer system on Reserve.

Each customer will be responsible for repairs to his individual sewer connection and his plumbing.

THAT we understand that an appraisal of costs of operating and maintaining the trunk line, lift station and sewage lagoon will be made within two years and that if justified, the fee paid to the Village of Fort St. James may be increased.

THAT a bylaw be prepared which will grant the Band Council power to collect \$3.00 per month from each customer using the sewer system on our reserve.

"ROBERT ANTOINE"		"ALEX MCINTOSH"		"LAZARE PIUS"	
(Councillor)		(Councillor)		(Councillor)	
"JUSTA" (Councillor)		"ROBERT PRINCE" (Councillor)		(Councillor)	
(Councillor)		(Councillor)		(Councillor)	
(Councillor)		(Councillor)		(Councillor)	
(Councillor)		(Councillor)		(Councillor)	

FOR HEADQUARTERS USE ONLY					
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indian Act Sec	5 Source of Funds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A. Capital	B Revenue			
6 Recommended			7 Approved		
Date			Date		
Authorized Officer			Assistant Deputy Minister		

IA 133 (3 68) 7650 21 023-4882

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to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

HQ Reference

NOTE The words **From our Bond Funds** must appear in all resolutions requesting expenditures from Bond Funds

COUNCIL OF THE		NECOSLIE	BAND	FOR HEADQUARTERS USE ONLY
AGENCY		LAKE DISTRICT		
PROVINCE		BRITISH COLUMBIA		
PLACE		NECOSLIE RESERVE		
DATE	SEVENTEENTH	APRIL	AD 19 70	
	DAY	MONTH	YEAR	

DO HEREBY RESOLVE

THAT we approve of a service charge of One Dollar and Fifty Cents per month for each house connected to the sewer system on our Neccanic Indian Reserve No. 1. This charge to offset costs of operation and maintenance of the main trunk line, lift station and sewage lagoon.

(C) 1997

(Counselor)

(Counsellor)

(Continued)

(Councillor)

(Councillor)

(Councillor)

(Continued)

(Councillor)

(Councillor)

(Councillor)

(Councillor)

(Councillor)

FOR HEADQUARTERS USE ONLY					
1 TRUST ACCT	2 CURRENT BALANCES		3 Expenditure	4 Authority Indicate Act Sec	5 Source of Funds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
	A Capital	B Revenue			
6 Recommended			7 Approved		
<small>DO NOT WRITE IN THESE SPACES</small> <small>RECOMMENDED BY</small> _____ <small>DATE OF RECOMMENDATION</small> _____ <small>SIGNATURE OF AUTHORIZED OFFICER</small> _____			<small>DO NOT WRITE IN THESE SPACES</small> <small>DATE</small> _____ <small>SIGNATURE OF ASSISTANT DEPUTY MINISTER</small> _____		

Superintendent Lakes District.

935/3-17-21 (T)

J.C. Regional Engineer.

April 29, 1970

Power System -
Laconia I.S.

This will acknowledge your letters of April 17th and April 27th, 1970.

Attached are four copies of a draft sample order by-law for the guidance of the Band.

There appears to be some confusion regarding the agreement you mention. We cannot locate any letter of August 11th, 1969 but we have found one dated August 14th which attached a letter and agreement from the Village of Port St. James.

Please also refer to your letter of June 6th, 1970 to Mr. Gordon, his reply of June 23rd and your further letter of June 26th. From these it appears that our Legal Division supplied the draft which the village commented upon. We have taken no further action to amend this agreement and suggest that a revised wording should be proposed by the village, which you should then send to Ottawa for approval.

J.C. Regional Engineer.

Copies to:

- (1) Director of Tech. Services - Ottawa.
- (2) Administrator of Lands - Ottawa.

THIS AGREEMENT made in triplicate this eleventh day
of January , A D , 1971

BETWEEN

HER MAJESTY THE QUEEN in right
of Canada, hereinafter called
"Her Majesty",

OF THE FIRST PART,

AND -

The Corporation of the VILLAGE
OF FORT ST. JAMES, in the Province
of British Columbia, hereinafter
called the "Permittee",

OF THE SECOND PART.

WHEREAS the Permittee has applied to use and occupy a
part of Necoslie Indian Reserve No One (1) in the Province of
British Columbia.

AND WHEREAS the Council of the Necoslie Band of Indians
for whose use and benefit the said Reserve has been set apart
has, by Resolution dated July Seventeenth, 1968, recommended
approval of the application.

NOW THEREFORE the Minister of Indian Affairs and Northern
Development, hereinafter called "The Minister" on behalf of Her
Majesty, under authority of Section 28(2) of the Indian Act, Chapter
I-6, Revised Statutes of Canada, 1970 doth hereby grant the Permittee,
its successors and assigns the right to,

- (a) construct, operate and maintain a sewage lagoon and sewage
trunk line on the lands being part of Necoslie Indian Reserve
Number One, in the Province of British Columbia, which may
be more particularly described as follows

DESCRIPTION

FIRSTLY In British Columbia, in Range 5, Coast District, in
Necoslie Indian Reserve Number 1, Lot 220 according
to Plan 56188 in the Canada Lands Surveys Records at

Ottawa, a copy of which is deposited in the Land
Registry Office at Prince Rupert as DF 18994,

said Lot containing 25 18 acres, more or less

SECONDLY

In British Columbia, in Range 5, Coast District,
in Necoslie Indian Reserve Number 1, a sewer
pipeline right of way according to Plan 56135 in the
Canada Lands Surveys Records at Ottawa, said right
of way containing 1 70 acres, more or less

- (b) generally to do all acts necessary and incidental to the
business of the Permittee in connection with the foregoing

IT IS AGREED AND UNDERSTOOD that the aforesaid
permission is granted on the following terms and conditions to which
the Permittee agrees

1. That the Permit shall be for a term of forty (40) years
from the first (1st) day of August, 1968, to the thirty-first (31st)
day of July, 2008.

2. That the Permittee shall pay the sum of Six Hundred
(\$600.00) Dollars on or before the execution hereof, as a fee
for the first year and thereafter annually in advance, the sum of
Six Hundred (\$600 00) Dollars for the next nine (9) years and
thereafter during the remainder of the term as is herein provided
by paragraph three (3) hereunder.

3. "That the fee for the second ten year period of the
term beginning August 1, 1978 and for each subsequent ten year
period shall be negotiated prior to the commencement of each such
ten year period. In conducting such negotiations the parties
shall assume that the fee will be a fair economic fee and that
the lands are lands in the same state as they were on the first
day of August, 1968. In the event of disagreement on the fee to
be paid for any of the succeeding ten year periods mentioned
heretofore, the Permittee shall have the right to refer this matter
to the Federal Court of Canada to determine the fee based upon the
same assumptions hereinbefore provided "

4. That the Minister shall have the right to utilize the sewage system for all present and future residential, industrial, tourist and commercial development on the said Reserve, provided that any such user of the system pays the monthly user fee levied by the Permittee of One Dollar and Fifty Cents (\$1.50) per household unit or equivalent. In consideration of a capital cost contribution of \$25,227.00 paid by the Minister of Indian Affairs and Northern Development as to the Necoslie Band's share of the cost of sewer trunk mains, pump station and treatment facilities on Reserve, the Permittee shall and does guarantee the Necoslie Band Twenty (20%) per cent use of the total capacity of the sewer system; trunk sewer, lift station, and force main capacity up to a population equivalent of 1,000 persons on the said Reserve and sewage lagoon and outfall capacity up to a population equivalent to 400 persons on the Necoslie Indian Reserve No 1. Provided however, should such use by the Minister cause the Permittee to make capital improvements to the said works or cause the cost of maintenance of the said works to the Permittee to increase then the Minister shall pay to the Permittee all such costs of improvements or maintenance, provided that Parliament approve the expenditure of such additional moneys.

5. The Permittee shall be responsible for the normal maintenance of the sewage lagoon and trunk lines.

6. That in the event that the Permittee abandons the sewage system, it shall revert to the Minister at no cost.

7. That the Permittee shall clean up any rubbish or debris following the construction, installation of the works or repairs or maintenance thereof.

8. That the Permittee shall have the right to pass and repass over existing Reserve roads and trails to such extent as may from time to time be reasonably required by the Permittee for the purposes of ingress and egress to and from the right-of-way.

9. That where there are no existing roads or trails suitable for that purpose, the Permittee shall have the right to pass and re-pass over land within the Reserve elsewhere than on existing roads and trails for the purpose of ingress and egress to and from the sewer lagoon and the sewage trunk line, subject to approval of the route by the Council of the EcoSole Band of Indians and of any Indian locatees in possession of such land over which the Permittee passes or repasses, such approval not to be unreasonably withheld. The Permittee shall compensate Her Majesty for any loss or damage incurred by the said Band or Indian locatees by reason of the exercise by the Permittee of its rights under this clause.

10. That Her Majesty shall not, without the prior consent of the Permittee which shall not be unreasonably withheld, erect, place any building structure or park roadway over the right-of-way, or to do any act or knowingly permit to be done any act that would interfere with or injure the works nor diminish the soil cover on the pipes installed or carry on blasting on or adjacent to the lagoon or the right-of-way.

11. That the Permittee shall comply with all Provincial and Federal Government health and sanitary requirements in the operation of the sewage lagoon and trunk line.

12. That the rights hereby granted shall be used by the Permittee for the purposes aforesaid and for no other purpose.

13. That it shall be lawful for the Minister or any person thereunto authorized by him at all reasonable times to enter upon the right-of-way for the purpose of examining the condition thereof.

14. That the Permittee shall at all times hereafter indemnify and hold harmless Her Majesty against all actions, claims and demands that may be lawfully brought or made against Her Majesty by reason of any act or omission by the Permittee in the exercise or purported exercise of the rights hereby granted.

15. That the Permittee shall not assign or sublet the rights hereunder without the written consent of the Minister.

16. That this permit may be terminated by the Minister if the Permittee is in default in the performance of any of the conditions herein contained for a period of thirty days.

17. That the Permittee shall pay and discharge all rates, duties and assessments whatsoever now charged or hereafter to be charged upon the said permit area or upon the said Permittee or occupier in respect thereof or payable by either in respect thereof.

18. That no member of the House of Commons shall be admitted to any share or part of the within Permit or to any benefit to arise therefrom.

19. Time shall be of the essence.

20. That no waiver on behalf of Her Majesty or Her Successors, or any breach shall take place or be binding unless the same be expressed in writing over the signature of the Minister, or the signature of His Deputy and any waiver so expressed shall extend only to the particular breach to which such waiver shall specially relate and shall not be deemed to be a general waiver, or to limit or affect the rights of Her Majesty or Her Successors, with respect to any or other future breach.

IT IS the intention of the Government of Canada to permit sale of subject
to the provision of the Act and Regulations and to the
herein, the Government of Canada for the purpose of the
race and established from time to time in that behalf by the
Governor-in-Council

It is the intention of the Director of Indian-Eskimo Economic
Development Branch, Department of Indian Affairs and Northern
Development, on behalf of His Majesty the Queen in Right of Canada,
the Permittee has caused these presents to be executed and its
corporate seal to be affixed hereto by its proper officers duly
authorized in that behalf

SIGNED, SEALED AND DELIVERED
in the presence of

Phyllis H. Cochran

P.O. Box 136
For St. James P.C.
As to the signature of the
Permittee

THE CORPORATION OF THE VILLAGE OF ST. JAMES
[Signature] MAYOR
[Signature] CLERK
Permittee

SIGNED, SEALED AND DELIVERED
by the Director, Indian-Eskimo
Economic Development Branch in
the presence of

J. Marion

[Signature]
Director, Indian-Eskimo
Economic Development Branch

Pages 1276 to / à 1277
are duplicates
sont des duplicatas

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*Communiqué en vertu de la
Loi sur l'accès à
l'information*

Lakes District,
Prince George, B.C.,
June 26th, 1973.

Head, Land Transactions Section.

985/8-17-21-1 (LM2)

Attention: F.J. Singleton.

985/31-5-21-1

Agreement No. 73-X14167, Sewage Lagoon,
Village of Fort St. James, B.C.

In reply to your letter of March 29th, 1973, the above permit is
now in good standing. Rental arrears have been received as
follows:

- (a) From the period August 1st, 1968 to July 31st, 1972,
4 years at \$600.00 -- \$2,400.00.
District Receipt No. G84365, Receipt Voucher No. 02509,
dated February 13th, 1973.
- (b) For the period August 1st, 1972 to July 31st, 1973,
one year at \$600.00.
District Receipt G843899, Receipt Voucher No. 04504,
dated April 5th, 1973.

BMH:kgb.

R.M. MOINTYRE,
DISTRICT REAL ESTATE OFFICER.

INCORPORATED 1952

CORPORATION OF

The Village of Fort St James

♦ DRAWER 640 ♦ FORT ST JAMES B C ♦ VOJ 1PO ♦ TEL 996 8233 ♦

JULY 25th, 1975

MR. V E RHYMER, DISTRICT SUPERVISOR
DEPARTMENT OF INDIAN AFFAIRS
209-280 VICTORIA STREET
PRINCE GEORGE, BRITISH COLUMBIA
CANADA V2L 4X3

Dear Sirs

Re NECOSLIE INDIAN BAND
- Water Line Breaks
- Outstanding Sewer & Water Account - \$4,479 97
- Village Sewer Lagoon Rent \$600 00

With reference to your letter of May 16/75 we would be pleased to learn the outcome of your discussions with the Necoslie Band Council regarding repair of their water line breaks and payment of the arrears of the Band's Sewer and Water Account

At the end of June, Chief Peter Prince asked me if the Village would repair the breaks and bill the Band Office. I asked if we could have a written request from the Band so that I could present it to our Council (We are concerned that the cost of the repairs would remain unpaid in the same manner as the Sewer & Water Account). To date no letter has been received from the Band Council requesting us to repair the breaks for them.

We acknowledge receipt of your Notice of Rent Payable for the Village Sewer Lagoon, which is located on Reserve property. (Your Lease No 73-X14167, \$600 due August 1st, 1975). We hereby request that we be allowed to apply our \$600 rent payment against the 1973 and 1974 invoices outstanding on the Band's Sewer and Water Account.

Your continued assistance in encouraging the Band Council to honour its financial commitments will be appreciated.

Yours truly,

MICHAEL PACKER
TREASURER

mp/bm



**BAND COUNCIL RESOLUTION
RESOLUTION DE CONSEIL DE BANDE**

NOTE: The words From our Band Funds Capital or Revenue which is the one must appear in all resolutions requesting expenditure of Band Funds
NOTA: Les mots des fonds de notre bande Capital ou revenu selon le cas doit paraître dans toutes les résolutions portant sur des dépenses de même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$ ---
AGENCY		Committed - Engage	\$ ---
DISTRICT	LAKES	Current Revenue balance Solde de revenu	\$ ---
PROVINCE	BRITISH COLUMBIA	Committed - Engage	\$ ---
PLACE			
NOM DE L'ENDROIT	FORT ST JAMES		
DATE	1 Oct AD 19 75 DAY - JOUR MONTH - MOIS YEAR - ANNÉE		

WE HEREBY RESOLVE
ECIDE PAR LES PRÉSENTES

THAT funds in the amount of Six Hundred dollars (\$600 00)
be paid out of our Band Revenue Account to the Corp of the
Village of Fort St James

We understand that these funds will be applied to the
Water/ Sewer account of the Necoslle Band

A quorum for this Band
Pour cette bande le quorum est
consists of
fixé à
Council Members
Membres du Conseil

P. L. L. L.
(Councillor - conseiller)

" (Councillor - conseiller)

" (Councillor - conseiller)

" (Councillor - conseiller)

[Signature]
(Chief - Chef)
[Signature]
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

[Signature]
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RESERVÉ AU MINISTÈRE				
1 Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A Capital B Revenue - Revenu	3 Expenditure Depenses	4. Authority - Autorité Indian Act Sec Art de la Loi sur les Indiens	5 Source of Funds Source de fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
6. Recommended - Recommandable		Approved - Approuvé		
Date		Date		
Recommending Officer - Recommandé par		Approving Officer - Approuvé par		

THE CORPORATION OF

The Village of Fort St JamesReleased under the Access
to Information ActCommuniqué en vertu de la
Loi sur l'accès à l'information
INCORPORATED 1952

DRAWER 640 FORT ST JAMES B C VOJ 1PO TEL 996 8233

JANUARY 26th, 1976

NECOSLIE INDIAN BAND
P O BOX 1329
FORT ST JAMES, BRITISH COLUMBIA
VOJ 1PO

ATTENTION CHIEF NICHOLAS PRINCE

DEAR CHIEF PRINCE

Re Outstanding Sewer & Water Account
\$3,982 14 (as at December 31st, 1975)
DEMAND FOR PAYMENT

Further to our double-registered letter of December 5th, 1975, we enclose an Account Statement showing the 8% interest on the 1973 and 1974 arrears posted to your account. The \$155 77 interest raises the outstanding balance to \$3,982 14 as at December 31st, 1975. From January 1st, 1976 interest at 8% per annum is accruing on the full balance.

As stated before we deeply regret having had to serve the Band with a legal Demand for Payment. We would remind you that the three month Demand Period expires March 5th, 1976. Surely you do not want us to go to Court over this account?

Frankly, I am pleased with the recent newspaper article indicating that the Necoslie Reserve is prepared to handle its own affairs. As responsible citizens you will no doubt honour your commitments promptly. The Village Council appreciated the meeting we had with yourself on December 3rd, 1975. We sincerely want to have good communication and genuine cooperation with your Council, and trust that we can have joint meetings on a regular basis.

In your own Council minutes for Thursday, March 20th, 1975 (when our two Councils met at the Necoslie Band Office) you will note that we promised to revise the billing procedure for Sewer & Water as soon as your account was brought up to date. We promised to charge you a flat amount to enable you to recover your administration and repair costs when you in turn bill your homes. This promise still stands.

We are now preparing our 1976 annual Sewer and Water billings. Our Council will be pleased to meet with you to negotiate a new Sewer & Water Agreement - as soon as your 1973, 1974, and 1975 billings are paid.

Yours truly,

TREASURER

MP/bm
Enclosure (1)

cc 1) Iona Campagnolo, M P Skeena

2) Jack Holman, District Supervisor Lakes District, D I & N A



THE CORPORATION OF

The Village of Fort St James

DRAWER 640 FORT ST JAMES B C VOJ IPO TEL 996 8233



JULY 22, 1976

DEPARTMENT OF INDIAN AFFAIRS & NORTHERN DEVELOPMENT,
LAKES DISTRICT,
209-280 VICTORIA STREET,
PRINCE GEORGE, B.C.
V2L 4X3


Dear Sirs

Re Sewer Lagoon Annual Rent \$600.00, Your Invoice No. 6080292

In view of the current unwillingness of the Necoslie Indian Band to pay their Water & Sewer Account, we wish to enter into a similar arrangement as last year whereby our annual rent payment of \$600 00 will be applied on the Reserve's delinquent account.

We have the funds to make our payment. As there was some confusion over the procedure last year, we would appreciate your advising ourselves and the Band Office how you wish us to effect this transaction.

Yours truly,


MICHAEL PACKER
TREASURER

MP/dj

- c.c. 1. Necoslie Indian Band
2. J Galt Wilson, Kelowna.

Handwritten notes:
- *all done here* (with arrow pointing to MP/dj)
- *Decision on how to be made at next Council Meeting on Aug 12/76*
- *[Signature]*

**BAND COUNCIL RESOLUTION
RESOLUTION DE CONSEIL DE BANDE**

File Reference - N° de r. l. du dossier
985/3-6-21, 985/28-7-21, 985/31-5-21

In the words From our Band Funds Capital or Revenue which ever is the case must appear in all resolutions requesting expenditures from Band Funds		En mots des fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses a	
name les fonds des bandes			
COUNCIL OF THE VSEIL DE LA BANDE INDIENNE		NECOSLIE BAND	
Y PRINCE GEORGE		Current Capital Balance Solde de capital	
ICT		\$ 4,188.35	
INCE		Committed - Engagé	
BRITISH COLUMBIA		\$ —	
E		Current Revenue balance Solde de revenu	
FORT ST JAMES		\$ 10,988.85	
DE L'ENDROIT		Committed - Engagé	
		\$ 4,274.80	
— 18 — DAY - JOUR		AUG — MONTH - MOIS	
		AD 19 — YEAR - ANNÉE	
		76	

WE HEREBY RESOLVE
/DE, PAR LES PRESENTES

That funds in the amount of Six Hundred dollars (\$600 00)
be paid out of our Band Revenue Account to the Corp of the
Village of Fort St James

We understand that these funds will be applied to the
Water/ Sewer account of the Necoslle Band

We resolve that we will manage these funds in accordance with General Terms
and conditions attached to our Memorandum of Agreement with the Department
dated March 16th, 1976

A quorum for this Bande
Pour cette bande le quorum est
consists of fixé à 4
Council Members
Membres du Conseil

Walter Drouse (Councillor - conseiller)
John Justice (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1 Band Fund Code Code du compte de bande 98526	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A Capital \$ 4,188.35	B Revenue - Revenu \$ 10,988.85	3. Expenditure Dépenses \$ 600.00	4. Authority - Autorité Indian Act Sec Art de la Loi sur les Indiens 66(1)
5 Source of Funds Source des fonds <input type="checkbox"/> Capital <input checked="" type="checkbox"/> Revenue				
6. Recommended - Recommandé			Approved - Approuvé	
30 08 76 Date			District Manager Recommending Officer - Recommande par	
			Date Approving Officer - Approuvé par	

**Pages 1292 to / à 1293
are withheld pursuant to section
sont retenues en vertu de l'article**

13(1)(c)

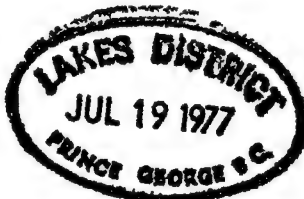
**of the Access to Information Act
de la Loi sur l'accès à l'information**

INCORPORATION OF

The Village of Fort St. James

INCORPORATED 1952

♦ DRAWER 640 ♦ FORT ST JAMES B C ♦ VOJ IPO ♦ TEL 996 8233 ♦



July 18, 1977

Department of Indian Affairs & Northern Development,
209-280 Victoria Street,
Prince George, B.C.
V2L 4X3

Dear Sirs


Re Sewer Lagoon Annual Rent \$600.00
Your Invoice No. 7080308


Since September, 1974 we have received only \$1,131.72 directly from the Necoslie Indian Band on their Sewer & Water Account. Another \$1,200 has come from the Village Sewer Lagoon Rent. These cover approximately one year's billings. We are still owed \$336.12 plus interest from 1974, and the full 1975, 1976, and 1977 accounts. Therefore, we wish to have our 1977 Sewer Lagoon Rent payment of \$600.00 applied on the Reserve's delinquent utility account, and Chief Nick Prince has agreed to this.

We have the funds to make our payment. Kindly advise the Band Office and ourselves how you wish us to effect this transaction.

Thank you.

Yours truly,


Michael Packer,
Treasurer

Copy sent 1. Necoslie Indian Band
2. Iona Campagnolo-MP Skeena
3. , Solicitor



THE CORPORATION OF

The Village of Fort St James

♦ DRAWER 640 ♦ FORT ST JAMES B.C. ♦ VOJ 1PO ♦ TEL 996 8233 ♦

August 23, 1977

Department of Indian Affairs & Northern Development,
209-280 Victoria Street,
Prince George, B.C.
V2L 4X3

Dear Sirs.

Re Sewer Lagoon Annual Rent \$600.00
Your Invoice No. 7080308

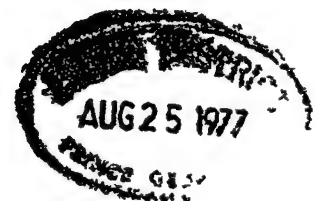
Further to our letter of July 18, 1977 I am pleased to advise that the Necoslle Indian Band have paid their outstanding sewer and water account in full. A new agreement has been entered into between the Band and the Village. A copy of this agreement is enclosed. No further cash payments are necessary by either the Village or the Band. Your invoice No. 7080308 should therefore be cancelled.

The signing of this agreement, we hope, heralds the start of a new period of co-operation for the benefit of both communities. We appreciate the help of all who assisted in resolving the recent dispute over the outstanding sewer and water account.

Yours truly,

Michael Packer,
Treasurer

Copy sent (1) Necoslle Indian Band
(2) Iona Campagnolo-MP Skeena
(3) [redacted], Solicitor
(4) [redacted], MLA Omenica



INTERIM AGREEMENT

Communiqué en vertu de
Loi sur l'Accès à
l'InformationTHIS INTERIM AGREEMENT MADE IN DUPLICATE THIS 12th

BETWEEN

Necoslíe Indian Band
(hereinafter referred to as the "Band")The Corporation of the Village of Fort St James
(hereinafter referred to as the "Village")

WHEREAS the Village has applied to use and occupy a part of the Necoslíe Indian Reserve No One in the Province of British Columbia, such property location described as that property between the Regional District Garbage Dump and the existing lagoon property leased by an agreement dated the 11th day of January, 1971, and bounded by the Necoslíe River and the Necoslíe Road.

AND WHEREAS the Band is in agreement with the proposal by the Village to lease the said property

NOW THEREFORE the Band does grant to the Village the right to construct, operate, and maintain a sewage lagoon and sewage trunk line or such other sewage works as permitted by the Pollution Control Board of British Columbia on the property described above. The Band further agrees to permit the Village to do all acts necessary and incidental to the business of the Village in connection with the foregoing

IT IS AGREED AND UNDERSTOOD that the aforesaid permission is granted on the following terms and conditions to which the Village agrees-

- 1 THAT the lease for the above noted property will be for a term of ninety-nine years
- 2 THAT the Village, in consideration of the lease, will provide free water and sewer service to all members of the Necoslíe Indian Band residing on the Reserve No 1 at such time as the water and sewer charges for the years 1977, 1976 and prior are paid for in full. Maintenance of the system on the Reserve shall continue to be the responsibility of the Band. Any person, firm, corporation, other than Band members, shall pay to the Village such users fees as are applicable, and as determined by Village by-law from time to time
- 3 THAT the Band agrees that the annual payment due under the Agreement dated the 11th day of January, 1971 shall be cancelled
- 4 THAT the Band agrees that the term of the Agreement dated the 11th day of January 1971 will be extended to coincide with the expiry date of the Lease outlined in Clause 1
- 5 THAT the Village agrees to supply the Band with copies of plans, engineering studies, or such other documents relating to the expansion of the sewer system on the Reserve.
- 6 THAT the Band and Village will, with due dispatch, negotiate, sign and approve an Agreement acceptable to the Department of Indian Affairs and Northern Development, such Agreement to contain generally the terms and conditions outlined in this Interim Agreement

SIGNED, SEALED AND DELIVERED
in the presence of

WITNESS

VILLAGE OF FORT ST. JAMES

NECOSLIE INDIAN B

MAYOR

NICHOLAS PRINCE
CHIEF

209 - 280 Victoria Street,
PRINCE GEORGE, B.C.
V2L 4X3.

August 29, 1977.

The Village of Fort St. James.
FORT ST. JAMES, B.C.
VOJ IPO.

985/31-5-21-1

Attention: Michael Parker.

RE: Sewer Lagoon Annual Rent \$600.00

Further to your letter of August 23, 1977, please be advised that
we must request the rent for the period September 1, 1977 to
August 31, 1978 in the amount of \$600.00 to be sent to this office.

Thank you.

Yours truly,

RHONDA GEORGE.
LANDS & ESTATES CLERK.
PRINCE GEORGE DISTRICT.

RG/eh

copy of Section 28/sub 1 Indian Act
sent too. Re: Agreement between
Band members & non Indians
re: use of band land.

THE CORPORATION OF

The Village of Fort St James

♦ DRAWER 640 ♦ FORT ST JAMES B.C. ♦ VOJ 1PO ♦ TEL 996 8233 ♦

August 30, 1977



Department of Indian & Northern Affairs,
209 - 280 Victoria Street,
Prince George, B.C.
V2L 4X3

Attention Rhonda George, Lands & Estates Clerk

Dear Sirs

Re Sewer Lagoon Annual Rent \$600

Thank you for replying so promptly to our letter of August 23rd, though we do not agree with your reply - which in effect says "Your Agreement with the Band is illegal. Pay us the \$600."

We acknowledge that the document we sent to you is simply an Interim Agreement. Our lawyer is already drafting the formal agreement based upon the instructions you sent us on August 23rd. (Your file 985/32-1-21). The Necoslie Indian Band at a general meeting, the Band Council, and the Chief have all decided that these are the terms the land will be leased to the Village. During the last three years we have been reminded in writing by your office, by your Headquarters, and by your Minister that the Band is in charge of its own affairs. Surely, you are not now going to over-rule the Band. I quote from your District Manager's letter of April 14, 1977 "the Band controls and manages its revenue monies...." It is the official policy of the Department, under the authority of Parliament, to support and encourage Indian Bands to govern themselves under Local Government Authority".

On August 12, 1977 we discontinued charging the Band for our Sewer and Water Service (\$2,070 per annum). The Necoslie Indian Band on that same date cancelled its charge to the Village for the use of the lagoon property (\$600 per annum.). In essence, the Village is paying \$1,470 per annum for the additional property.

We do not intend to violate our Agreement with the Band, and therefore will not be paying your Invoice No. 7080308.

Yours truly,

Copy sent: [redacted], Solicitor
Necoslie Indian Band
[redacted]

R

NOV 10 1977

PRINCE GEORGE

Released under the Access
to Information Act

Communiqué en vertu de la

Loi sur l'accès à

l'information

Ch u l u s 1 N s Numero enscrit 1

98526-31/77-78

F i e R f e n c e - N o d e r e f d u d o s e r

985/3-F-23/985/31-5-21-1

BAND COUNCIL RESOLUTION
RESOLUTION DE CONSEIL DE BANDENOTE The words Form ou Band Funds Capital o Revenu which e s the ase must appear in all resolutions equating expenditure s from
Band FundsNOTA Les mots de fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses
même les fonds de bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND.	Current Capital Balance Solde de capital	\$ _____
AGENCY DISTRICT	PRINCE GEORGE	Committed - Engage	\$ _____
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$ _____
PLACE NOM DE L'ENDROIT	NECOSLIE I.R. #1	Committed - Engage	\$ _____
TE _____	DAY - JOUR _____	MONTH - MOIS _____	AD 19 _____
		YEAR - ANNEE _____	

DO HEREBY RESOLVE
DECIDE PAR LES PRESENTES

and request that the Department of Indian Affairs, waive the rent owing
from the Village of Fort St. James in the amount of \$620.00 for the
period August 1, 1977 to July 31, 1978. Said rent pertaining to
Permit No. 73-X14167

A quorum for this Band
Pour cette bande le quorum estconsists of
fixé à 5Council Members
Membres du Conseil

[Signature] (Chief - Chef)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)
[Signature] (Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE

1 Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR A Capital \$ _____	B Revenue - Revenu \$ _____	3 Expenditure Dépense \$ _____	4 Authority - Autorité Indian Act Sec Art de la Loi sur les Indiens	5 Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
6. Recommended - Recommandable			Approved - Approuvable		
" Date _____			" Date _____		
Recommending Officer - Recommande par _____			Approving Officer - Approuve par _____		

IA 135 (3 74) 7530 21 023 4862

A0430859_168-001305

985/31-5-21-1

1075

November 23, 1977

B.C. Regional Office
Department of Indian and Northern Affairs
700 West Georgia Street
P.O. Box 10061, Pacific Centre
Vancouver, B.C.
V7Y 1C1

Attention Mr. L. Wong

Dear Sirs:

Re. Necoslie Indian Reserve no. 1 - Village of Fort St. James

Further to our telephone conversation of November 21st please find enclosed proposed draft of new permit covering the Village's use of the Necoslie Indian Reserve for sewer treatment purposes.

I would ask that you go through the agreement and if you have any questions, contact me. Please note no capital contribution by Her Majesty is anticipated for the expansion of the sewage lagoon.

Also please note that this agreement will be subject to the approval of the Minister of Municipal Affairs.

Yours truly,

WILSON, BAUMAN

J. GALT WILSON

JGW:ea1

Encl.

cc: Mr. D.N. Spink, Clerk, Village of Fort St. James

DRAFT

THIS AGREEMENT made in triplicate this
A D , 1977

day of

BETWEEN

HER MAJESTY THE QUEEN IN RIGHT OF CANADA

(hereinafter called "Her Majesty")

OF THE FIRST PART

AND

VILLAGE OF FORT ST JAMES
of Fort St James, in the
Province of British Columbia

(hereinafter called the "Permittee")

OF THE SECOND PART

WHEREAS

A The Permittee and Her Majesty are parties to an Agreement dated the 11th day of January, 1971 whereby the Permittee acquired rights as therein set out to construct, operate, and maintain a sewage lagoon and a sewage trunkline on defined portions of the Necoslie Indian Reserve No 1 in the Province of British Columbia (hereinafter called the "1971 Agreement")

B The Permittee pursuant to the 1971 Agreement has constructed and now operates and maintains a sewage lagoon and sewage trunkline on the said Reserve

C The Permittee wishes to expand its sewage works on to new portions of the said Reserve and for that purpose, the parties desire to mutually discharge the 1971 Agreement and to provide in this Agreement the terms and conditions under which the Permittee may operate and maintain its works constructed pursuant to the 1971 Agreement and construct additional works on new portions of the said Reserve.

D The Council of the Necoslie Band of Indians has found it virtually impossible to collect for the Permittee the monthly user fee levied by the Permittee pursuant to the 1971 Agreement and as a result the user payments to the Permittee are now greatly in arrears

E The Permittee for this purpose has made application to Her Majesty

F. The Council of the Necoslie Band of Indians, for whose use and benefit the said Reserve has been set apart, has by resolution dated , recommended approval of this Agreement

-2-

NOW THEREFORE the Minister of Indian Affairs and Northern Development (hereinafter called the "Minister") on behalf of Her Majesty under authority of Section 28(2) of the Indian Act, Chapter 1-6, Revised Statutes of Canada, 1970, does hereby grant unto the Permittee, its successors and assigns, the right to

A Construct, operate and maintain one or more sewage lagoons and sewage trunklines on the lands being part of Necoslie Indian Reserve No 1 in the Province of British Columbia which may be more particularly described as follows

Firstly In British Columbia in Range 5, Coast District in the Necoslie Indian Reserve No 1, Lot 220, according to Plan 55188 in the Canada Lands Survey Records at Ottawa, a copy of which is deposited in the Land Registry Office at Prince Rupert as DF 18994, said lot containing 25 18 acres more or less

Secondly In British Columbia in Range 5, Coast District in the Necoslie Indian Reserve No 1, that part of the said Reserve shown outlined in red on the Plan attached hereto and marked Schedule "A" hereof

(The properties described as firstly and secondly herein are hereinafter referred to as the "Sewage Lagoon Site")

Thirdly In British Columbia in Range 5, Coast District in the Necoslie Indian Reserve No 1, a sewer pipeline right-of-way according to Plan 56135 in the Canada Lands Survey Records at Ottawa said right-of-way containing 1 70 acres more or less (hereinafter referred to as the "Sewage Trunk Line Right-of-Way")

B Generally to do all acts necessary and incidental to the business of the Permittee in connection with the foregoing

(All of which is hereinafter referred to as the "Works")

IT IS AGREED AND UNDERSTOOD that the aforesaid permission is granted on the following terms and conditions to which the Permittee agrees

1 That the permit shall be for a term of ninety-nine (99) years from the first day of _____, 1978 until the 31st day of _____, 2077

-3-

2 The Permittee shall pay the sum of ONE DOLLAR (\$1 00) on or before the execution hereof as a fee for the entire term hereof

3 That from such time as all outstanding sewer and water rates due and owing by the Necoslie Indian Band or Members thereof to the Permittee, pursuant to the 1971 Agreement, have been fully paid and satisfied, the Permittee shall provide water and sewer service at no charge to single family residential premises owned and occupied by Members of the Necoslie Indian Band residing on the said Reserve until the expiration or sooner determination of the term hereof. For greater clarity, it is mutually understood that any person, who is not a Member of the Necoslie Indian Band or who connects the water or sewer facilities to premises used for any purpose other than single family, but who receives any water or sewer service from the Permittee shall in respect thereof pay such user rates and other charges as are from time to time imposed by the by-laws of the Permittee as if the premises were located within the sewer and water serviced areas of the Village of Fort St James

Her Majesty shall pay to the Permittee all such outstanding sewer and water rates owing by the Necoslie Indian Band or Members thereof, pursuant to the 1971 Agreement, forthwith upon the execution hereof

4 The Permittee shall maintain and operate the Works but shall not be required to maintain the same to any degree beyond that which it is required to maintain similar works paid for out of the general revenue of the Permittee

The Necoslie Indian Band, or in default Her Majesty, shall be solely responsible for the construction, operation and maintenance of any sewer or water facilities constructed or required to be constructed in order to service any premises upon the Reserve with water or sewer. Any connection of any sewer collection line or water supply line to the sewer or water mains of the Permittee shall be made at the location upon those mains closest to the area to be served at a location to be specified by the Permittee and under the direction and control of the Permittee and to the specifications of the Permittee and a shut-off valve shall be located at such interconnection

Should the Necoslie Indian Band or Her Majesty fail to keep the sewage collection lines or the water distribution lines connecting the water or sewer trunk lines of the Permittee to premises located upon the Reserve in a good state of repair and in particular so that the same do not permit the contents to escape nor permit ground water to enter therein the Permittee may forthwith disconnect such collection or supply lines from the water or sewer system of the Permittee and the same shall not be reconnected until repairs have been carried out by Her Majesty or the Necoslie Indian Band on the portion of the sewer or water system that they are responsible to maintain to the satisfaction of the Permittee

Should the Necoslie Indian Band or any person having premises connected to the sewer system, discharge into the sewer system, volatile or other liquids that in the opinion of the Permittee will do damage to the Permittee's system or the treatment facilities of the Permittee or permit storm water to be discharged directly into the sewer system the Permittee may forthwith disconnect such premises from the sewer system and the same shall not be reconnected until such time as the liquids aforesaid are prevented from entering the sewer collection system

All water supply facilities and plumbing facilities connected to the water or sewer system shall be constructed and maintained according to all Federal and Provincial regulations in relation thereto otherwise the premises in which such facilities are located that are not so constructed or maintained shall be disconnected from the water or sewer system forthwith

Should the Necoslie Indian Band fail to disconnect premises from the sewer or water system as above provided then the Permittee may disconnect the entire water or sewer system to be maintained by the Necoslie Indian Band or Her Majesty from the water or sewer trunk facilities of the Permittee until such offending facilities are repaired or premises disconnected

5 That in the event the Permittee abandons the Works they shall revert to the Minister at no cost

6 That the Permittee shall clean up any rubbish or debris following the construction and installation of the Works or repairs or maintenance thereof

7. That the Permittee shall have the right to pass and repass over existing Reserve roads and trails to such an extent as may from time to time be reasonably required by the Permittee for the purposes of ingress and egress to and from the Sewage Lagoon Site and the Sewage Trunk Line Right-of-Way

8. That where there are no existing roads or trails suitable for that purpose, the Permittee shall have the right to pass and repass over land within the Reserve elsewhere than on existing roads and trails for the purpose of ingress and egress to and from the Sewage Lagoon Site and the Sewage Trunk Line Right-of-Way, subject to approval of the route by the Council of the Necoslie Band of Indians and of any Indian locatees in possession of such land over which the Permittee passes or repasses, such approval not to be unreasonably withheld. The Permittee shall compensate Her Majesty for any loss or damage incurred by the said Band or Indian locatees by reason of the exercise by the Permittee of its rights under this clause

9 That Her Majesty nor anyone holding land under Her Majesty shall not, without the prior consent of the Permittee, which shall not be unreasonably withheld, erect or place any building, structure or roadway over the sewer right-of-way or do any act or knowingly permit to be done any act that would interfere with or injure the Works nor diminish the soil cover on the pipes installed or carry on blasting on or adjacent to the Sewage Trunk Line or Sewage Lagoon Site nor do any works whatsoever upon those portions of Indian Reserve No 1 as more particularly described as Firstly and Secondly above

10 That the Permittee shall comply with all Provincial and Federal Government health and sanitary requirements in the operation of the Sewage Lagoon Site and the Sewage Trunk Line Right-of-Way The Necoslie Indian Band, Her Majesty and all persons holding properties upon the Reserve shall, in the construction, operation and maintenance of any sewage or water facilities including those contained within buildings built upon the Reserve, comply with all Provincial and Federal Government construction, health and sanitary requirements in the construction, operation and maintenance of such sewer and water facilities

11 That the rights hereby granted shall be used by the Permittee for the purposes aforesaid and for no other purpose

12 That it shall be lawful for the Minister or any person thereunto authorized by him at all reasonable times to enter upon the Sewage Lagoon Site or the Sewage Trunk Line Right-of-Way for the purpose of examining the condition thereof

13. That the Permittee shall at all times hereafter indemnify and hold harmless Her Majesty against all actions, claims and demands that may be lawfully brought or made against Her Majesty by reason of any act or omission by the Permittee in the exercise or purported exercise of the rights hereby granted

That Her Majesty shall at all times hereafter indemnify and hold harmless the Permittee against all actions, claims and demands that may be lawfully brought or made against the Permittee by reason of any act or omission by Her Majesty or any Member of the Necoslie Indian Band in the exercise or purported exercise of the rights hereby granted to them

14. That the Permittee shall not assign or sublet the rights hereunder without the written consent of the Minister

15 That this permit may be terminated by the Minister or the Permittee if the Permittee or Her Majesty is in default in the performance of any of the conditions herein contained for a period of thirty (30) days

16 That the Permittee shall pay and discharge all rates, duties and assessments whatsoever now charged or hereafter to be charged upon the said permit area or upon the said Permittee or occupier in respect thereof or payable by either in respect thereof

17. That no member of the House of Commons shall be admitted to any share or part of the within Permit or to any benefit to arise therefrom

18. Time shall be of the essence

-6-

19 That no waiver on behalf of Her Majesty or Her Successors, shall take place or be binding unless the same be expressed in writing over the signature of the Minister, or the signature of His Deputy nor on behalf of the Permittee unless the same be expressed in writing over the signature of the Clerk of the Permittee and any waiver so expressed shall extend only to the particular breach to which such waiver shall specially relate and shall not be deemed to be a general waiver, or to limit or affect the rights of Her Majesty or Her Successors or the Permittee with respect to any or other future breach

20 That upon execution of this Agreement the 1971 Agreement shall be and be deemed to be discharged and of no further force and effect

IT IS FURTHER AGREED that this permit shall be subject to the provisions of the Indian Act and Regulations established thereunder and the Municipal Act and Regulations established thereunder, which may be now in force or which may hereafter be made and established from time to time in that behalf by the Governor-In-Council or Lieutenant-Governor-In-Council

The provisions of this Agreement are subject to the prior approval of the Minister of Municipal Affairs of the Province of British Columbia

IN WITNESS WHEREOF the Director, Indian-Eskimo Economic Development Branch, Department of Indian Affairs and Northern Development, on behalf of Her Majesty the Queen in Right of Canada and the Permittee have caused these presents to be executed

SIGNED, SEALED AND DELIVERED)
by the DIRECTOR, INDIAN-ESKIMO)
ECONOMIC DEVELOPMENT BRANCH in)
the presence of)

_____) Director, Indian-Eskimo
Economic Development Branch

THE CORPORATE SEAL OF THE)
CORPORATION OF THE VILLAGE OF)
FORT ST JAMES was hereunto)
affixed in the presence of)

_____) Mayor

_____) Clerk



Indian and
Northern Affairs

Affaires indiennes
et du Nord



Vancouver, B.C.
V7Y 1C1

January 18, 1978.

District Manager
Prince George District

Attention: Mr. R. M. McIntyre

Your file Votre référence

Our file Notre référence 985/31-5-21-1

Re: Proposed Permit to Replace Permit 73-X14167
Corporation of the Village of Fort St. James
Necoslle Indian Reserve No. 1

Your letter and enclosures of October 24, 1977 were referred to me for review and comments of the business contents.

In your analysis, the present value of benefits to be received by the Band exceeds the estimated present land value by 100%. However, your calculation does not give any consideration of the loss of annual permit fees from the existing permit and the proposed "permit". The total annual loss from these two permits could amount to, as shown in following, based on my calculation as per attached table.

<u>Period</u>	<u>Fee From Existing Permit</u>	<u>Fee From Proposed Permit</u>	<u>Total Loss Annually</u>
1 year (1/8/77-31/7/78)	\$600.00		
10 years (1/8/78-31/7/88)	\$900.00	\$2,290.00	\$3,190.00
10 years (1/8/88-31/7/98)	\$1,470.00	\$3,720.00	\$5,190.00
10 years (1/8/98-31/7/08)	\$2,400.00	\$6,070.00	\$8,470.00
10 years (1/8/08-31/7/18)	\$3,900.00	\$9,880.00	\$13,780.00
10 years (1/8/18-31/7/28)	\$6,360.00	\$16,090.00	\$22,450.00

Obviously, the proposal will eliminate the administration problems (collecting and paying dues) we have had, but the Band will not gain any financial benefits to alienate additional 68 acres of land (two permits total 94.88 acres).

... 2

R. M. McIntyre

- 2 -

January 18, 1978.

I have requested opinions from the Regional Planner as to the proposed use of the land. Unfortunately, due to "insufficient resources to cover this property", he could not comment on it.

Following are some areas we should look into before we would consider the approval of the proposal:

1. The highest and best use of the land at present and in the foreseeable future - the term of the proposed "permit" is 50 years. Are we satisfied that the use of the land as a sewer lagoon represents the highest and best use of the land for such a long time?
2. The effect of the sewer lagoon to the neighboring reserve lands - I am sure the sewer lagoon will be constructed to meet the anti-pollution standards. However, the location of the lagoon could hinder most types of development onto the neighboring reserve lands. Has this been fully discussed and considered?
3. The undesirability of this type of development on reserve lands - in the point of view as a land owner, the construction of a sewer lagoon on his land, is least desirable. Could it be built somewhere else?

If the proposed development has been proved to be beneficial to, and for the interest of the Band and the public, and the site, in all respects, is the most suitable location, then the Band should be reasonably compensated. Alternatively, we should look into the possibility of land exchange on an equivalent value basis. It is a more desirable way to deal with alienation of reserve lands for public uses.

Enclosed is a copy of draft "permit" submitted by the lawyer for the Village of Fort St. James. I will not act on it until I hear from you.

Lewis P. S. Wong

Lewis P. S. Wong
"Real Estate Officer
Lands, Membership & Estates
British Columbia Region

encl:

TABLE SHOWING POSSIBLE LOSS OF ANNUAL PERMIT FEES

Existing Permit

Term - 40 years (1/8/1968 - 30/7/2008)
Area - 26.88 Acres
Fee Review - Every 10 years

Proposed Permit

Term - 50 years as from 1/8/1978
Area - 68 Acres
Estimated Land Value - \$25,400.00 or \$373.53 per acre

Assumptions

1. Market value of land is still at \$373.53 on 1/8/78.
2. Increase rate of land value is at 5% per annum.
3. Return rate from permit is 9%.
4. Fee review for proposed permit is also every ten years.
5. Existing permit expires on 31/7/2008. An extension of 20 years is granted and it will end at the same time as the proposed permit.

100 MANY ASSUMPTIONS

<u>Period</u>	<u>Market Value of land per acre</u>	<u>Existing M.V. of Land (26.88 ac)</u>	<u>Permit Ann. Fee at 9%</u>	<u>Proposed M.V. of Land (68 ac)</u>	<u>Permit Ann. Fee at 9%</u>
year (- 31/7/78)			\$600.00		
years (from 1/8/78)	\$373.53	\$10,040.00	\$900.00	\$25,400.00	\$2,290.00
years (from 1/8/88)	\$608.48	\$16,360.00	\$1,470.00	\$41,380.00	\$3,720.00
years (from 1/8/98)	\$991.21	\$26,600.00	\$2,400.00	\$67,400.00	\$6,070.00
years (from 1/8/08)	\$1,614.34	\$43,400.00	\$3,900.00	\$109,775.00	\$9,880.00
years (from 1/8/18)	\$2,629.76	\$70,690.00	\$6,360.00	\$178,820.00	\$16,090.00

SEWER SYSTEM DEVELOPMENT PLAN

**VILLAGE OF
FORT ST. JAMES**

APRIL 1978

ASSOCIATED
ENGINEERING
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AES

SEND TO





Mr. R. McTavish
Indian & Northern Affairs
280 Victoria St Prince George

ASSOCIATED
ENGINEERING
SERVICES LTD

Loi sur l'Accès à
l'information

AESL

FROM <i>J. A. Bayou</i>	DEPT OF ORIGINATOR	DATE <i>May 5/78</i>	VH83
SUBJECT <i>Village of Fort St James</i>	RE <i>Report on Sewer System</i>		
MESSAGE <i>Enclosed is a copy of the report on the sewer system study that was recently presented to the council of the Village of Fort St James. If you have any questions we would be pleased to discuss the report with you.</i>			
			
			
USE LOWER PORTION FOR REPLY			
REPLY FROM		DATE	

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April 17, 1978
File VH83

His Worship Mayor Togyi and
Members of the Council
Village of Fort St James
Drawer 640
Fort St James, B.C.
VOJ 1P0

Gentlemen

RE Report on Sewer System Development Plan

Enclosed is our report on proposed sewer system development to serve the growing needs of the community over the next 20 years with suggested means of further expansion beyond the year 2000. The study considers the combined projected growth of the village and the Necoslie Indian Band and suggests upgrading of trunk mains, pumping stations and treatment and disposal facilities.

A staged program of construction is suggested.

We will be pleased to meet with Council to present and discuss the report.

Yours truly,

A rectangular area of the document has been redacted with a grey stippled pattern, obscuring the signature of the Area Manager.

Area Manager

DCT/eeo

Enclosure

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I INTRODUCTION

GENERAL

In the 10 year period since a sewer system was first installed in Fort St James the village population has grown approximately 75 percent to an estimated 2300 persons. This represents an increase of 5.7 percent per year. The present population exceeds the design capacity of the sewage lagoons and consequently the B. C. Pollution Control Branch (PCB) requires that the village prepare and adopt a program of upgrading of the sewage treatment and disposal system.

AUTHORIZATION

Associated Engineering Services Limited (A E S L) was authorized to proceed with this study at the meeting of Village Council held on August 17, 1977.

PURPOSE

The purpose of this study is to prepare a program of development for sewage works to meet the requirements of the Village of Fort St James over the next 15 to 20 years.

PROJECT STAFF

The study was carried out under the direction of D. C. Taylor, P. Eng., Area Manager. Mr. Jack Bryan, P. Eng., was the Project Engineer. Dr. M. J. Stewart, P. Eng., was the Technical Advisor on pollution control and environmental concerns. Field and office assistance was provided by technicians from the A E S L Prince George office.

ACKNOWLEDGEMENTS

Associated Engineering Services Limited is grateful for the co-operation of the Village of Fort St James administrative and public works staff, the Department of Indian Affairs and Northern Development and the B. C. Department of Highways.

II POPULATION GROWTH

PAST GROWTH

Since incorporation as a village in 1952, Fort St James has experienced steady growth from a few hundred persons to an estimated 2300 persons in 1978. A plot of the growth over the years 1956 to 1978 is found on Figure I. The average percentage growth rate varied from a low of 2.4% per year during the 5 year period 1961 to 1966 to a high of 13.5% per year during the 5 year period 1956 to 1961. The average growth rate over the 20 year period 1956 to 1976 was 6.4% per year.

PROJECTED FUTURE GROWTH

During the 10 year period 1961 to 1971 the growth rate was minimal at 3.2% per year. It is expected that the average growth rate over the next 15 to 20 years will be less than over the past 20 years and that future growth in Fort St James will fall between the 10 year low growth rate of 3.2% per year and the long-term average growth rate of 6.4% per year. In this report, for the purpose of estimating sewer system requirements over the next 20 years, we have used a predicted average growth rate of 4.5% per year.

At this rate the population to the year 2000 would increase as shown in Table I.

TABLE I
PROJECTED POPULATION 1978 - 2000
VILLAGE OF FORT ST JAMES

Year	Estimated Population	Years in Future from 1978
1978	2300	0
1983	2870	5
1988	3580	10
1993	4460	15
1998	5560	20
2000	6070	22

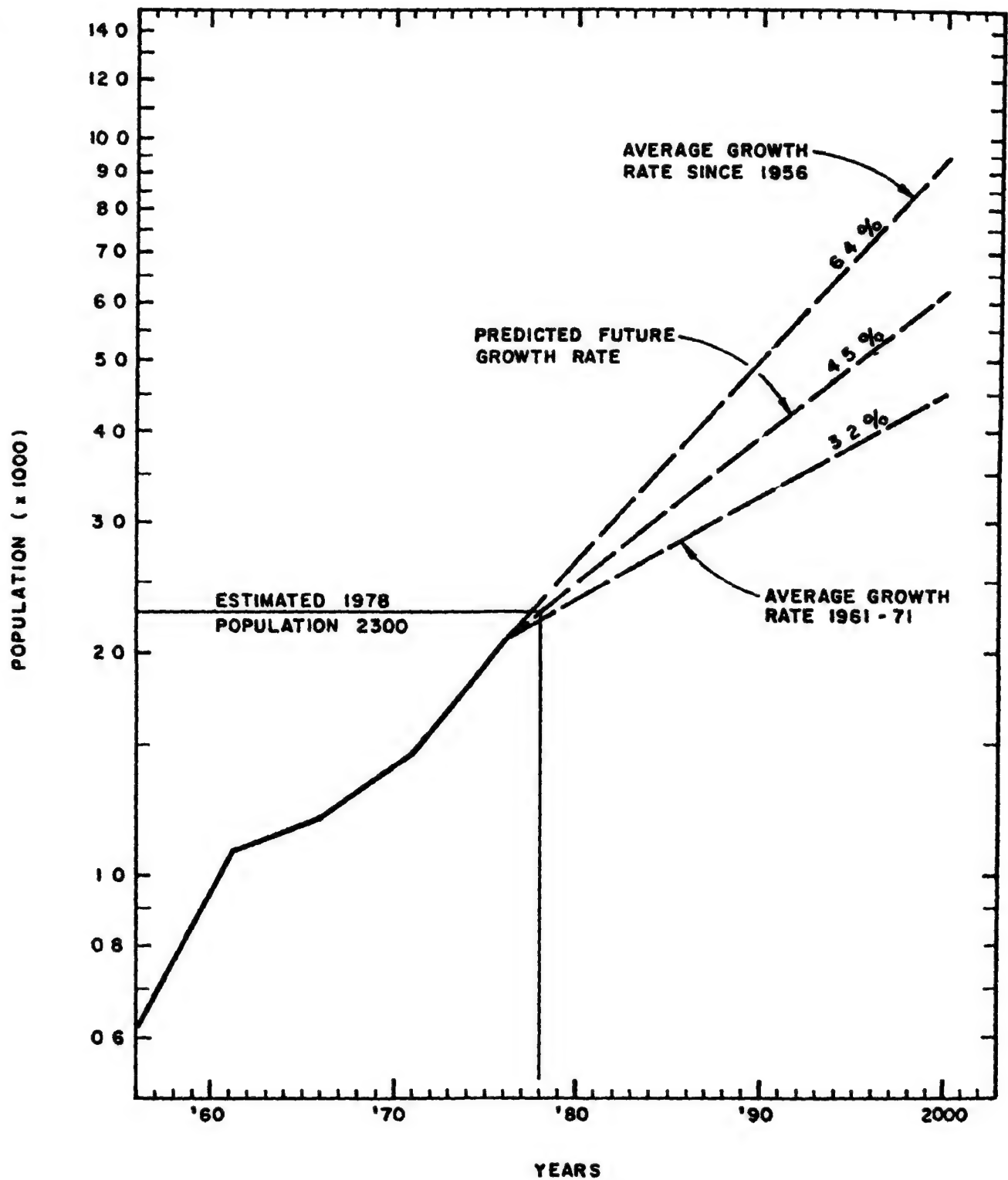


FIG 1 - POPULATION FORECAST
(BASED ON CENSUS FIGURES BY STATISTICS CANADA)

COMBINED GROWTH

Sewage works outside the village boundary serve not only the village but the Necoslle Indian Reserve as well. Consequently the main trunk sewer, pumping station, and force main to the lagoons plus the treatment and outfall works must be designed for the combined sewage flow from the Village of Fort St James and the Necoslle Indian Band. A population projection by the Department of Indian Affairs and Northern Development showed the on-reserve population as 383 in 1976 and projected a straight line increase of 44 residents every 10 years.

TABLE II
PROJECTED COMBINED POPULATION 1978 - 2000
FORT ST JAMES PLUS NECOSLIE INDIAN RESERVE

Year	Estimated Population (FSJ + NIR)	Years in Future from 1978
1978	2700	0
1983	3285	5
1988	4014	10
1993	4917	15
1998	6037	20
2000	6558	22

INCREASE IN DWELLING UNITS

As the community grows, additional dwelling units (du) will be provided
At an estimated 3 5 persons/du the number of dwelling units required is
shown on Table III

TABLE III
VILLAGE OF FORT ST JAMES
DWELLING UNITS

Year	Estimated Dwelling Units	Additional Du	SFDU*	MFDU*
1978	660		540	120
		160		
1983	820		670	150
		200		
1988	1020		830	190
		250		
1993	1270		1040	230
		320		
1998	1590		1300	290
		140		
2000	1730		1420	310

* Single Family Dwelling Units (SFDU) and Multiple Family Dwelling Units
(MFDU) .

III COMMUNITY DEVELOPMENT

ORDER OF DEVELOPMENT

In order to assess the impact of the projected population growth on the existing sewer system it is necessary to make certain assumptions regarding the locations where the growth will take place. The probable order of development of future new subdivisions was touched on briefly in the A E S L report entitled Subdivision Feasibility Report, Douglas and Homesites Areas, September 1977. Other things being equal it seems logical to develop areas first that do not require major utility system expansions to provide service.

The present distribution of population was assessed by dividing the village into alphabetically named areas and enumerating the number of dwelling units in each. The areas were selected on the basis of sanitary sewer catchment areas. The location of the areas is shown on Figure 3 which is found in the pocket at the end of the report. The acreage contained in each area was calculated, as was the 1978 population. The ultimate population likely to reside within each area was then calculated. The ultimate population of areas near the town center was considered to reflect rezoning and redevelopment of some of the larger lots into multiple family dwellings. In preparing the 20-year development chart (Table IV) it was assumed that the ultimate redevelopment would take place uniformly in all redevelopment areas over a 50-year period.

It was assumed that village initiated subdivision development would take place first in the Homesites Area following the recommendations of the A.E.S.L. Subdivision Feasibility Report dated September 1977.

It was assumed that private and public developments would share the new subdivision land market about equally.

Table IV, Order of Village Development, represents the results of the exercise of allocating the anticipated population growth to the various areas of town during each of four 5-year periods. While the actual growth values and locations could differ from the projected values, the suggested order of development provides a logical basis on which future deficiencies in the sewer system can be predicted.

TABLE IV
ORDER OF VILLAGE DEVELOPMENT

Area	Acres	Population		5-Year Period			
				1	2	3	4
		Present	Ult	1983	Ending In 1988	1993	1998
A-1*	28	140	420	170	210	240	270
A-2	38	410	410	410	410	410	410
A-4	16	---	50	---	50	50	50
A-5	10	300	400	400	400	400	400
A-6	79	---	960	---	150	450	960
A Total	171	850	2240	980	1220	1550	2090
B *	41	150	550	190	230	270	310
C-1*	20	110	300	130	150	170	190
C-2*	19	180	290	190	200	210	220
C-3	43	140	500	190	250	300	300
C-4	22	---	340	---	---	---	---
C-5	32	---	450	---	---	---	---
C-6	62	---	940	---	---	---	---
C Total	198	430	2965	510	600	680	710
D-1*	13	55	195	70	80	90	105
D-2*	16	40	250	60	80	100	120
D-3	26	250	460	370	460	460	460
D-4	63	---	950	---	100	300	505
D-5	68	525	710	690	710	710	710
D-6	37	---	550	---	100	300	550
D Total	223	870	3115	1190	1530	1760	2450
TOTAL	633	2300	8870	2870	3580	4460	5560

* Area assumed to be redeveloped over 50-year period

IV SEWER SYSTEM UPGRADING

GENERAL

Current population predictions exceed those made eleven years ago when the present sewer system was being planned. Further, the direction and extent of residential expansion is better known today as the result of subsequent studies. In order to accommodate the predicted growth it will be necessary to modify and supplement the existing sewer facilities in some cases. In the following paragraphs recommendations are given for the nature and timing of items of sewer system upgrading based on the predicted population growth as shown in Table IV. Cost estimates include an allowance of 10 percent for contingencies and 12 percent for engineering and field inspection.

SEWAGE PUMP STATIONS

The sewage pump station located on Ash Street West has a design capacity for a population of 2400. Improvements to increase the capacity will be required at approximately the year 1990. Eventually this pumping station may have to be replaced.

The sewage pumping station located on the Necoslie Indian Reserve has a design capacity for a population of 5800. This should be adequate to meet requirements up to the year 1997.

SEWER MAINS

The following summary of recommended improvements is given in order of priority.

1. The sewer main located on Stuart Drive West from Ash Street West to Elm Street is operating near capacity at the present time during peak flow. A relief sewer should be constructed in this location before any further development is permitted in this area. The estimated cost is \$37,000.
2. The trunk sewer main on Stuart Drive West from Manson to Lakeview has the capacity to serve the predicted population until the year 1982. The estimated cost of a relief sewer in this location is \$20,000.
3. Fort Avenue West sewer from Stuart Drive to Kwah Road may be improved in two stages. The section from Stuart Drive to the manhole 268 feet south of Stuart Drive will require upgrading by the year 1982. The estimated cost is \$8,000.

The remainder of the sewer to Kwah Road has a steeper grade than the first section and should not require upgrading until 1985. The estimated cost of improvements to this section of sewer is \$33,000

- 4 Ash Street West sewer main from Stuart Drive to the sewage pump station will require upgrading by the year 1985 The estimated cost is \$7,000
- 5 Douglas Avenue sewer from Kwah Road to the manhole 345 feet north of Kwah Road will require upgrading by the year 1988 The estimated cost is \$9,000
- 6 Kwah Road sewer from Douglas Avenue to the manhole 250 feet west of Douglas Avenue will have to be upgraded by the year 1994 Estimated cost is \$6,000
- 7 Stuart Drive East sewer from Douglas Avenue to the manhole 330 feet east of Douglas Avenue should be upgraded in 1995 Estimated cost is \$9,000
- 8 The trunk sewer main located on the Necoslie Reserve from Kwah Road to sewage pump station number II has adequate capacity until the year 1995 Estimated cost of subsequent improvements is \$115,000
- 9 Stuart Drive sewer from manhole number 39 to manhole number 42 at the intersection with Ash Street has adequate capacity until area C-4 is developed This is not anticipated before the year 1998 The estimated cost is \$20,000
- 10 Ash Street sewer from Stuart Drive West to Douglas Avenue will require upgrading when area C-5 development commences This does not appear likely within the next 20-year period The estimated cost is \$65,000

The estimates are based upon current costs and no allowance has been made for cost escalation on work not required in the near future

TABLE V
SEWER SYSTEM UPGRADING

Period	From/to	Year	Item of Upgrading	Estimated Cost	Sub-Total
1	1978-83	1979	Sewer on Stuart Dr W from Ash St W to Elm St	37,000	
		1982	Sewer on Stuart Dr W from Manson to Lakeview	20,000	
		1982	Sewer on Fort Ave W Part I from Stuart Dr to Kwah Road	8,000	
			Total Period 1		65,000
2	1984-88	1985	Sewer on Fort Ave W Part II from Stuart Dr to Kwah Road	33,000	
		1985	Sewer on Ash St W from Stuart Dr to Pump Station	7,000	
		1988	Sewer on Douglas Ave from Kwah Rd to 345 ft N	9,000	
			Total Period 2		49,000
3	1989-93	1990	Pump Station on Ash St	5,000	
			Total Period 3		5,000
4	1994-98	1994	Sewer on Kwah Rd from Douglas Ave to 250 ft W	6,000	
		1995	Sewer on Stuart Dr E from Douglas Ave to 330 ft E	9,000	
		1995	Trunk Sewer on Necoslie Reserve from Kwah Rd to Main Pump Station	115,000 22,000	
		1997	Main Pump Station		
		1998	Sewer on Stuart Dr from Ash St to 665 ft N.	20,000	
			Total Period 4		172,000
5	1998-When C-5 Area Develops		Sewer on Ash St from Stuart Dr W to Douglas Ave	65,000	
			Total Period 5		65,000
			GRAND TOTAL		<u><u>\$356,000</u></u>

V SEWAGE TREATMENT AND DISPOSAL

QUANTITY OF SEWAGE

From limited sewage flow measurements taken during the summer of 1977 the dry weather flow is estimated to be approximately 40 gallons per day * (gpd) per capita. For the purpose of design of sewage treatment works the dry weather flow is taken as 50 gpd/capita, the year-round average as 70 gpd/capita and the peak wet weather flow as 100 gpd/capita for small communities.

QUALITY OF SEWAGE

Sewage strength is measured by two characteristics.

- 1.) The amount of biodegradable matter present in the sewage as measured by the Biochemical Oxygen Demand over a 5-day period (BOD) in milligrams per liter (mg/l) and
- 2.) The amount of Suspended Solids (SS) present in the sewage, also measured in mg/l

In small communities the BOD contained in the sewage amounts to approximately 0.133 lb/day/capita

EXISTING FACILITIES

The combined sanitary sewage flow from the village and the Indian reserve is presently treated in two conventional sewage lagoons located on property leased from the Necoslie Indian Band. The lagoons have a water surface area of 10.74 acres (5.46 and 5.28 acres each) and operate in parallel. The effluent from the lagoons is chlorinated and retained in a chlorine contact chamber before being discharged to the Necoslie River.

In a series of five tests conducted by the PCB in 1977 the average values of BOD and SS were 64.8 mg/l and 24.4 mg/l respectively. Maximum values were 117 mg/l BOD and 38 mg/l SS. A copy of test results is found in Appendix A. The renewed PCB permit allows maximum values of 75 mg/l BOD and 85 mg/l SS. The average flow is limited to 120,000 gpd.

Odour problems on the Necoslie River downstream from the sewer outfall were reported in late 1976 by PCB personnel. In a letter from the PCB dated December 1, 1976 (see Appendix B) the need for upgrading of the existing treatment system was expressed. Three alternative courses of action were suggested, as follows:

* Gallons referred to in this report are Imperial gallons

- Alternative 1 Phase out the existing works within three years and construct new works within the village
- Alternative 2 Construct a pipeline to carry the lagoon effluent to the Stuart River
- Alternative 3 Upgrade the existing facilities

Following preliminary investigations into alternative treatment sites and meetings with A E S.L. engineers, Village Council decided not to follow Alternative 1, but rather to seek a long term lease and agreement with the Indian band for additional land adjacent to the present treatment site. Agreement in principle has now been reached and the proposed site for expansion of treatment facilities is shown on Figure 2

ALTERNATIVE TREATMENT METHODS

Regardless of whether the first stage of upgrading consists of additional treatment or a pipeline to the Stuart River, it is obvious that additional treatment capacity will be needed to handle future growth in the communities. The following alternative methods of treatment were considered initially

1 Conventional Sewage Lagoons

A large potential site for conventional lagoons exists immediately east of the present lagoons. A preliminary survey was run to establish whether this site would be suitable from the standpoint of topography. The results indicated that two lagoons could be constructed having water surface areas of approximately 14 acres and 10 acres. The larger lagoon would be situated on Indian land for which the lease is presently being negotiated. The smaller lagoon would be partly on village land and partly on land privately held at present

2. Aerated Sewage Lagoons

The existing conventional lagoons were constructed so that the embankments could be built up to provide the depth desirable for an aerated lagoon. Experience indicates that this alternative would be more expensive than construction of additional conventional lagoons

3 Anaerobic Lagoons

These normally consist of multiple cells in series providing from 2 to 4 days retention. Land requirements are minimal and treatment efficiencies are comparable to conventional lagoons. However, bad odours are normally associated with this system and removal and disposal of sludge build-ups is an unpleasant maintenance operation. Because of the probable odour problem this alternative has not been investigated further.

4 Activated Sludge System

Activated Sludge Plants properly operated are capable of producing the highest quality sewage effluent attainable. Poorly operated they can produce among the worst quality effluents. The cost of construction and operation for an activated sludge plant is generally greater than for an aerated lagoon.

DEGREE OF TREATMENT REQUIRED

The degree of treatment required depends largely on the dilution afforded the effluent in the receiving stream. The effluent quality objectives in this case require the following characteristics over the stated range of dilutions.

Dilution (Ratio of River to Sewage Flow)	BOD mg/l	SS mg/l
20.1 to 200.1	30	40
200.1 to 2000.1	45	60
greater than 2000.1	100	100

In the absence of stream flow records on the Necoslie River it is not possible to establish the mean annual 7-day average low flow necessary to calculate dilutions. However, the mean annual 7-day average low flow in the Stuart River near Fort St. James is recorded as 770,000,000 gpd. Assuming treatment works capable of providing an effluent with 100 mg/l BOD and 100 mg/l SS, the maximum discharge that the Stuart River could receive within the guidelines would be 385,000 gpd. At 100 gpd/capita, this means a population of 3850 could be accommodated which would, according to the population projections, suffice until the year 1986. When the population reaches 3850, treatment facilities capable of producing a better quality effluent would be needed. With a 45/60 effluent (BOD/SS) a dilution as low as 200.1 is permissible. The Stuart River has the capability of receiving treated sewage effluent of 45/60 strength for a population of over 30,000.

3. Anaerobic Lagoons

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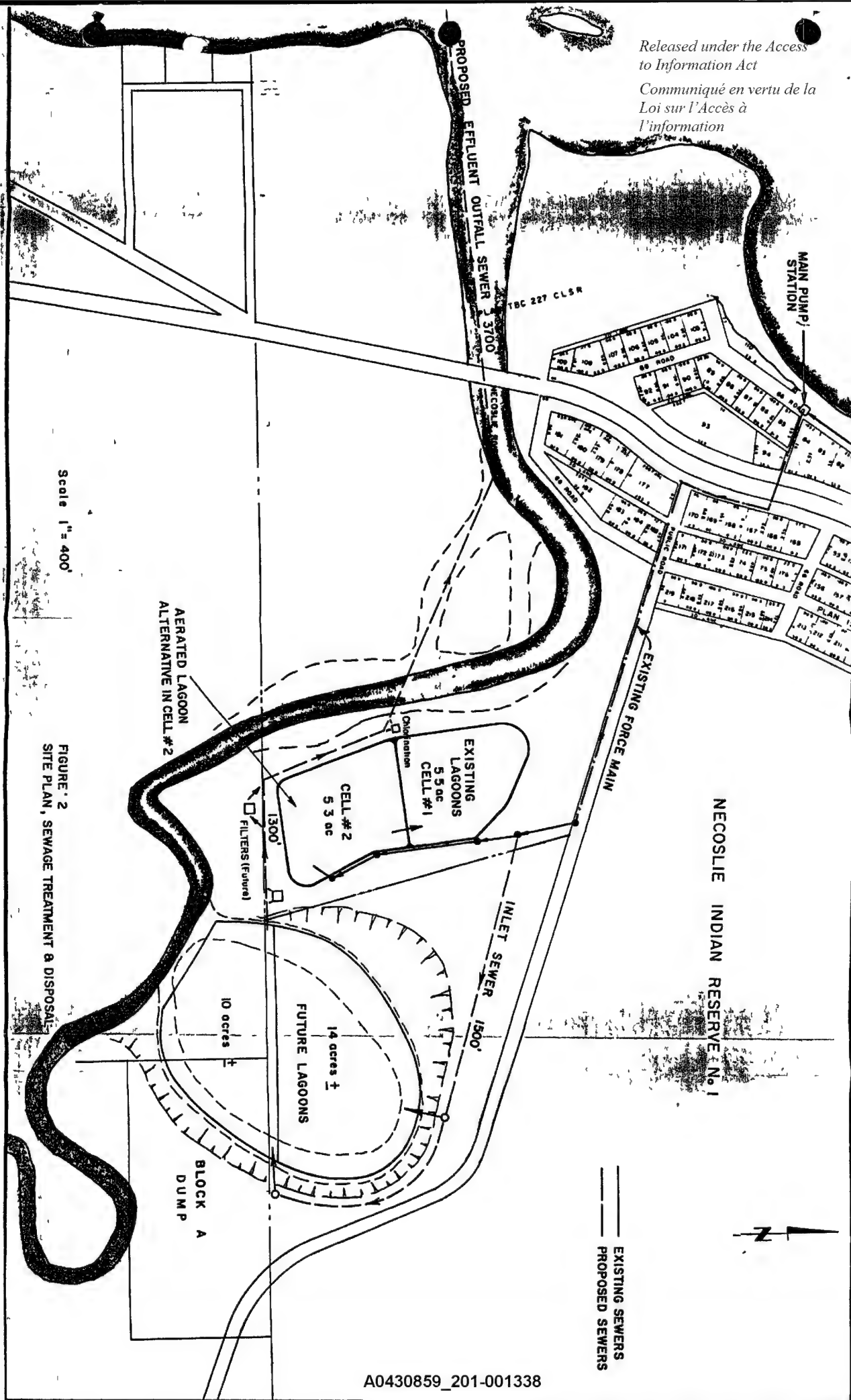


FIGURE 2
SITE PLAN, SEWAGE TREATMENT & DISPOSAL

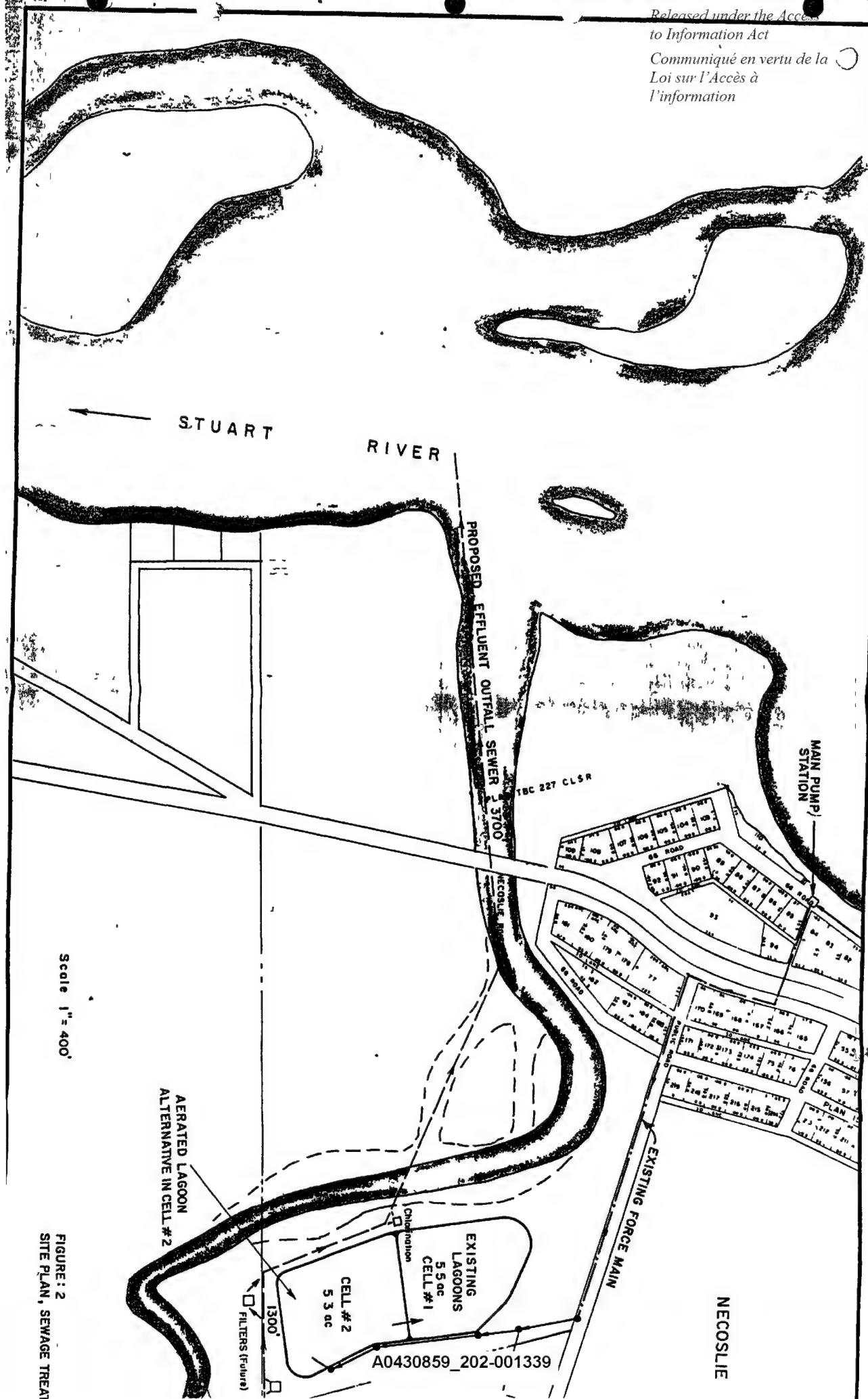


FIGURE 2
SITE PLAN, SEWAGE TREATMENT

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DEGREE OF TREATMENT PROVIDED

It seems unlikely that, under the present guidelines, the village would ever be required to provide treatment capable of producing better than a 45/60 effluent. Furthermore, treatment works capable of producing effluents of 100/100 quality appear to be adequate for a period of time ranging from 8 to 25 years depending on the per capita flow and how optimistic a growth rate is used

The lagooning systems (conventional, aerated or anaerobic) can all meet the requirements for a 100/100 effluent, but to improve these systems to 45/60 effluent could require additional treatment. Filtration is proposed as the method of reducing the effluent quality to 45/60 during periods of high algae content in summer or low BOD removal in winter. The applicability of this method of upgrading can be investigated at a later date by means of several relatively simple laboratory tests

Filtering removes the bulk of the suspended solids. Since the Suspended Solids constitute a major portion of the BOD, the BOD is also reduced by filtration

Activated Sludge systems can produce effluents of 45/60 quality consistently when they are operating properly. However, as mentioned previously, they require quite a fair degree of skill and knowledge to operate and in many cases have shown results no better, or worse, than lagoons

CONVENTIONAL LAGOON LOADING

The design criteria used in the existing conventional lagoons was 200 persons/acre. These lagoons operated satisfactorily through 1974 when a series of tests by the P.C.B. produced the following results.

Date	BOD (mg/l)	SS (mg/l)
Sept 19, 1973	12	33
Jan 30, 1974	65	35
May 01, 1974	26	27
Nov 01, 1974	42	26
Jan 07, 1975	60	31

The total contributing population in 1974 is estimated to have been 2200 persons. This works out to be $2200/10.7 = 206$ persons/acre, so the continued use of 200 persons/acre as a design figure for lagoon loading appears to be justified. This is equivalent to $200 \times 0.133 = 26.6$ lb BOD/acre/day

The land in the area of the existing lagoons could yield an estimated total of 35 acres of lagoon water surface area including the existing lagoons. At 200 persons/acre this would serve a combined population of 7000. At the projected growth rate this population will be reached around the year 2002.

STAGING OF LAGOON DEVELOPMENT

The land lease being negotiated with the Indian Band would yield an estimated net water surface area of approximately 14 acres. This together with the existing lagoons would provide a total of approximately 25 acres of lagoon which, at 200 persons/acre, would serve a population of 5000 persons and would produce an effluent within the limits of 100/100. The projected date at which the combined population will reach 5000 is the year 1993, or 15 years hence. The 14 acre lagoon expansion seems to be a logical choice for the first stage because of the land ownership situation.

The next stage, consisting of approximately 10 acres, would increase the treatment capacity to 7000 persons, which would then be good until 2002 according to projections. Beyond that date the conversion of conventional lagoons to aerated lagoons would be one alternative to consider.

AERATED LAGOON ALTERNATIVE

An aerated lagoon is the logical alternative to conventional lagoons. One of the existing lagoons could be converted to an aerated lagoon by raising the embankments to provide a minimum water depth of 11 feet and adding aeration equipment. The design period for this installation should be roughly ten years. The population projection for 1988 is 4000. One of the conventional lagoons would remain in service so the additional capacity required from the aerated cell would be for $4000 - 1000 = 3000$ persons. The modified lagoon cell would be large enough to handle a population of 6800 as an aerated lagoon. Initially the installed blower and aerator capacity would be for 3000 population.

OUTFALL SEWER

In order to obtain the dilution afforded by the Stuart River, a pipeline from the lagoons to the main stream of the Stuart River should be constructed as a top priority item. The pipe would be sized to carry the ultimate flow expected from this site. The total length of pipe involved is approximately 3700 feet. The pipe, tentatively sized at 12 inches in diameter, would be laid in the Necoslie River bottom.

A non-corrosive polyethylene pipe is favoured as the construction material. Concrete weights would be added to overcome buoyancy. At some future date it may be necessary to pump effluent through the outfall sewer because of the low head differential available during high water levels in Stuart Lake.

ESTIMATED CONSTRUCTION COSTS

The following are estimated costs of constructing the proposed works based on mid-1978 ENR Construction index of 2800. Costs include an allowance of 10% for contingencies and 12% for engineering and field inspection. Two alternatives are considered for sewage treatment, conventional and aerated lagoons. Land costs are not included.

1. Conventional Lagoon - Stage I 14 acre lagoon to increase total capacity to 5000 population

Lagoon	\$ 35,000	
Clearing	140,000	
Earthwork	12,000	
Access Road	8,000	
Fence		
		\$195,000
Connecting Piping including manholes	\$ 55,000	
Inlet sewer 1500 feet	50,000	
Outlet sewer 1300 feet		
		\$105,000
		\$300,000

Total Estimated Cost

2. Conventional Lagoon - Stage II 10 acre lagoon to increase total capacity to 7000 population

Lagoon	\$ 27,000	
Clearing	100,000	
Earthwork	4,000	
Fencing	36,000	
Inlet Sewer 1000 feet		
		\$167,000
Total Estimated Cost		

PROPOSED SEWAGE TREATMENT AND DISPOSAL PROGRAM

It is proposed that the treatment and disposal system be expanded in the following order

1. Construct outfall sewer to Stuart River This should be scheduled to meet PCB requirements, tentatively for completion by mid 1980
2. Construct additional 14 acre lagoon cell and connecting piping The present cells were rated at 250,000 gpd average flow (3570 population) with a 130/130 effluent under the permit amendment application dated August 12, 1976 This would be good until 1985 according to population predictions
3. Construct filtration facilities for 5000 population to reduce BOD and SS in lagoon effluent to meet PCB effluent quality standards if and when required The earliest date for this is when population reaches 3850, which is in 1987 according to population predictions
4. Construct additional 10 acre lagoon cell, required when population reaches 5000, projected for 1993
5. Construct additional filtration capacity to increase total to serve 7000 population as required, (in 1993 according to present predictions)
6. When the population reaches 7000 (anticipated to occur after year 2000) further upgrading could be accomplished by converting one 5 acre cell to an aerated lagoon

TABLE VI
SEWAGE TREATMENT AND DISPOSAL UPGRADING

Period	From/to	Year	Item of Upgrading	Estimated Cost	Sub-total
1	1978-83	1979	Outfall Sewer	<u>237,000</u>	237,000
2	1984-88	1985	14 Acre lagoon & connecting piping	300,000	
		1987	Filtration could be required	<u>166,000</u>	466,000
3	1989-93	1993	10 Acre lagoon	167,000	
		1993	Filtration increment if required	<u>70,000</u>	237,000
4	1994-98	---	None	-----	-----
GRAND TOTAL					<u><u>\$940,000</u></u>

CONCLUSIONS

By following the suggested program of sewer upgrading, the village can provide the capacity required to meet the demands of a growing community

Of the two methods of sewage treatment investigated in depth, the conventional lagoon system appears to provide the most economical solution to the treatment requirements of the village over the next 20 years.

Additional treatment in the form of effluent filtration may become necessary to meet P C B standards, as the village sewage flows increase and the dilution available in the Stuart River decreases

Respectfully submitted,

[REDACTED]
[REDACTED]
Area Manager

Eng



[REDACTED]
[REDACTED]
Project Engineer

Eng



APPENDIX A
SEWAGE SAMPLE TEST RESULTS
MINISTRY OF THE ENVIRONMENT

MINISTRY OF THE ENVIRONMENT

25 JANUARY 1976

PAGE 1

SHEET 1 OF 1 PAGE 1

TEST RESULTS FOR SITE PE0023901 FY ST. JAMES. NEOSLYE TR

FOR 01 OCTOBER 1976 TO 31 DECEMBER 1977

SUBMITTING AGENCY: ALL

DEPTH: ALL

SAMPLING LOCATION: ALL

SAMPLING LOCATION: ALL											
** START **		DEPTH	COMP	004	PH	005	008	011	115	450	451
Y M D H M		FEET	TYPE			RES 105C	RESNF 105	SPF COND	B.O.D.	COL.FECL	COL.TOTL
				REL UNIT		MG/L	MG/L	UMHO/CM	MG/L	M.P.N.	M.P.N.
										240000.	
770118 0000		0									
770118 1000				7.1		698.	38.	1110.	75.		
770322 1430				7.2		516.	28.	828.	37.	G 240000.	
770720 1430				8.		770.	19.	1040.	117.	24000.	
770920 1100		0		8.		792.	9.	1120.	31.	35000.	160000.
771012 1500		0								350000.	1600000.
771012 1500				7.6		766.	28.	1080.	64.		
NUMBER OF VALUES				5		5	5	5	5	5	2
MAXIMUM				8.		792.	38.	1120.	117.	350000.	1600000.
MINIMUM				7.1		516.	9.	828.	31.	24000.	160000.
AVERAGE				7.58		708.4	24.4	1035.6	64.8	177800.	680000.
STANDARD DEVIATION				0.38157		101.22	9.7623	107.47	30.805	127620.	720000.
GEOMETRIC MEAN				7.5764		760.15	21.949	1029.5	57.783	111110.	505960.
PERCENTILES:											
PCT10											
PCT25				7.15		607.	14.	934.	34.	29500.	880000.
PCT50				7.6		766.	28.	1080.	64.	240000.	
PCT75				8.		781.	33.	1115.	96.	295000.	
PCT90											

EXPLANATORY NOTES:
STATISTICS FLAGGED WITH "****" INCLUDE ONE OR MORE VALUES MARKED L (LESS THAN), G (GREATER THAN) OR M (MEAN OF RESULTS)
COLUMNS FLAGGED WITH "***" INCLUDE MORE THAN ONE TEST METHOD

SITE PE0023901

APPENDIX B

LETTER DATED DECEMBER 1, 1976

FROM PCB

BAND COUNCIL RESOLUTION
RESOLUTION DE CONSEIL DE BANDE

NOTE The words From our Band Funds Capital or Revenue whichever is the case must appear in all resolutions requesting expenditures from Band Funds
 NOTA Les mots des fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$ _____
AGENCY		Committed - Engagé	\$ _____
DISTRICT	PRINCE GEORGE DISTRICT	Current Revenue balance Solde de revenu	\$ _____
PROVINCE	BRITISH COLUMBIA	Committed - Engagé	\$ _____
PLACE NOM DE L'ENDROIT	NECOSLIE RESERVE		
DATE	08 DAY - JOUR	Aug. MONTH - MOIS	AD 19 78 YEAR - ANNEE

I HEREBY RESOLVE
DECIDE, PAR LES PRESENTES

AND REQUEST THAT the Department of Indian Affairs and Northern Development
 waive the rent owing from the Village of Fort St James in the amount of
 Six Hundred (\$600 00) Dollars for the period August 1st, 1978 to July 31st,
 1979 Said rent pertaining to Permit No 73-X14167

A quorum for this Band
Pour cette bande le quorum est

consists of
fixé à

Council Members
Membres du Conseil

Fred Sam
(Councillor - conseiller)

John C. C. C.
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

Harold Prince
(Chief - Chef)
(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)



(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RESERVÉ AU MINISTÈRE				
1 Band Fund Code Code du compte de bande	2. COMPUTER BALANCES - SOLDES D'ORDINATEUR		3 Expenditure Dépenses	4. Authority - Autorité Indi n Act Sec Art de la Loi sur les Indiens
	A Capital \$	B Revenue - Revenu \$		
5 Source of Funds Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue				
6. Recommended - Recommandable			Approved - Approuvable	
Date			Date	
Recommending Officer - Recommandé par			Approving Office - Approuvé par	

OFFICE OF THE MAYOR



DRAWER 640
FORT ST JAMES B.C.
VOJ 1PO

September 8, 1978

RECEIVED
SEP 11 1978

Necoslie Indian Band

Chief James T. Prince
Necoslie Indian Band
Box 1329
Fort St. James, B.C.
VOJ 1PO

Dear Chief Prince

On behalf of my Council we would like to thank you for inviting us to meet with yourself and the Band Council to negotiate a new agreement for additional land for our lagoon purposes.

My Council and I have had an opportunity to review your proposals in some detail and would comment as follows

1. We cannot agree to renegotiation of the lease every 10 years, as it effectually means the lease term is only 10 years rather than 60 years. A 10 year lease would not be of sufficient length of time to justify the massive capital expenditures anticipated for system improvements. Therefore the agreed terms should stand for 60 years.
2. We accept your proposal to offer a 60 year term, however, we would not object to the term being reduced to 50 years if the Department of Indian Affairs so decree.
3. It was the unanimous decision of Council that your proposal to obtain 10% of sewer rates revenue be rejected. In this regard it was felt that the service we would provide in water and sewer services generously compensates the Band for the value of the land used for our lagoon for the term of the lease.

Enclosed herewith is a Fact Sheet which calculates the true value of service the municipality provides to the Band, a figure in excess of \$5000 per year.

*Peter recommended
delete Agreed by
Council*

*Peter recommended
50 yr term -
Agreed by
Council*

*Peter recommended
also 10% in form
of Section #2 water
Adm in town
shall not be charged
w+s*

OFFICE OF THE MAYOR



Released under the Access
TELEPHONE 996 8233

Communiqué en vertu de la
Loi sur l'Accès à
l'information

DRAWER 640
FORT ST JAMES B C
VOJ 1PO

. . . 2

4. Clause 7 of your agreement is unacceptable as it would violate ?
Section 568(3) of the Municipal Act and the B C. Human Rights Act.?

Section 568(3) allows us to set the different rates, terms, and conditions for different users. However, it is not morally or ?
legally possible to consider that Necoslie Band members residing within the Village are "different users" than other Village users.

We are encouraged that the Village Council and Necoslie Band Council have reached basic agreement on many clauses at our first meeting. Enclosed is a draft copy of a lease agreement drawn up by our Solicitor that includes many of the points both parties have already agreed to. We would ask you to seriously review this agreement

Thank you for giving consideration to our comments. We look forward to meeting you again next Tuesday.

Yours truly,

Mayor

Encl.

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to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

NOTICE OF INTENT

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information
MAR 27 1979
RECEIVED

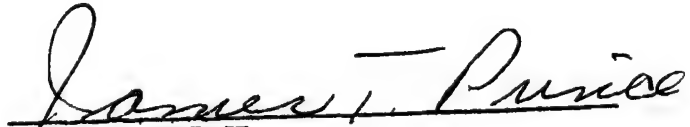
NOTICE is hereby given that the Council of the Necoslie Band intend to call a general meeting on April 24th, 1979 between the hours of 10 00 a.m. and 8.00 p.m. at the Necoslie Band Office to place before the electorate of the Band a qualified surrender for lease of approximately 65.6 acres of land composed of Reserve Band lands as follows:

1. All of Lot 220 as shown on Plan 56188, Canada Lands Surveys Records.
2. All that part of Necoslie Indian Reserve No. 1 which is bounded on the west by the easterly boundary of Lot 220, on the south by the southerly boundary of Necoslie Indian Reserve No. 1 and on the north and east by the southerly and westerly limit of Necoslie Road as shown on Plan 59349 deposited in the said Canada Lands Surveys Records.

65.6
acres

This surrender will be for the purpose of leasing the lands for the purpose of a sewerage lagoon for a period not exceeding fifty-five years.

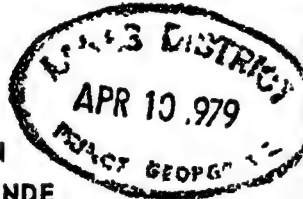
Dated and posted at Necoslie Indian Reserve No. 1 this Nineteenth day of March, 1979.


JAMES T. PRINCE,
CHIEF, NECOSLIE BAND.

3403

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to Information Act

Indian and Northern Affairs Affaires indiennes et du Nord



Chronological Number of Council

Loi sur l'Accès à

985614-04/79-80

File Reference - No de ref du dossier

985/3-6-614, 985/30-1-614, 31-5-6-
985/8-17-61**BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE**

NOTE The words From our Band Funds Capital or Revenue which ever is the case must appear in all resolutions requesting expenditures from Band Funds

NOTA Les mots des fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$ _____
AGENCY DISTRICT	PRINCE GEORGE DISTRICT	Committed - Engagé	\$ _____
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$ _____
PLACE NOM DE L'ENDROIT	FORT ST. JAMES	Committed - Engagé	\$ _____
DATE	23 DAY - JOUR	03 MONTH - MOIS	AD 19 79 YEAR - ANNÉE

DO HEREBY RESOLVE
DÉCIDE, PAR LES PRÉSENTES

THAT it is the intention of the Necoslie Band Council to call a general meeting of the Band on April 24th, 1979 at the Band Office situated on Necoslie Reserve for the purpose of conducting a surrender vote pertaining to the matter of leasing approximately 65.6 acres of Band land within Necoslie Indian Reserve No. 1 under the following conditions:

1. The areas of land to be surrendered shall be as identified in the "Notice of Intent" dated March 19th, 1979 attached as Schedule I hereto.
2. The purpose for which the land may be leased is for a sewerage lagoon site.
3. The surrender shall terminate on April 30th, 2034.
4. Any lease entered into on the surrendered land must be approved by the Necoslie Band Council.
5. The land surrendered may be returned to full reserve status by Order-in-Council on receipt of a Band Council Resolution so requesting, subject to there not being in evidence at that time any leases of the subject lands.

IT IS FURTHER RESOLVED THAT the hours of this General Meeting of the Band shall be between 10:00 a.m. and 8:00 p.m.

A quorum for this Band
Pour cette bande le quorum estconsists of
fixé à

4

Council Members
Membres du Conseil

Harold Prince
(Chief - Chef)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

A0430859_219-001356



Indian and Northern Affairs Affaire indiennes et du Nord



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Communiqué en vertu de la

Loi sur l'accès à

l'information

File No - N° de dossier

BAND COUNCIL RESOLUTION
RESOLUTION DE CONSEIL DE BANDE

NOTE The words From our Band Funds Capital or Revenue which are the case must appear in all resolutions requesting expenditures from Band Funds
NOTA Les mots des fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses à même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$
AGENCY		Committed - Engagé	\$
DISTRICT	PRINCE GEORGE DISTRICT	Current Revenue balance Solde de revenu	\$
PROVINCE	BRITISH COLUMBIA	Committed - Engagé	\$
PLACE NOM DE L'ENDROIT	FORT ST JAMES		
DATE	DAY - JOUR MONTH - MOIS AD 19	YEAR - ANNEE	

DO HEREBY RESOLVE
DECIDE, PAR LES PRESENTES

THAT it is the intention of the Necoslíe Band Council to call a general meeting of the Band on April 24th, 1979 at the Band Office situated on Necoslíe Reserve for the purpose of conducting a surrender vote pertaining to the matter of leasing approximately 65 6 acres of Band land within Necoslíe Indian Reserve No 1 under the following conditions

- 1 The areas of land to be surrendered shall be as identified in the "Notice of Intent" dated March 19th, 1979 attached as Schedule I hereto
- 2 The purpose for which the land may be leased is for a sewerage lagoon site
- 3 The surrender shall terminate on April 30th, 2034
- 4 Any lease entered into on the surrendered land must be approved by the Necoslíe Band Council
- 5 The land surrendered may be returned to full reserve status by Order-in-Council on receipt of a Band Council Resolution so requesting, subject to there not being in evidence at that time any leases of the subject lands

A quorum for this Band
Pour cette bande le quorum estconsists of
fixé à
Council Members
Membres du Conseil

IT IS FURTHER RESOLVED THAT the hours of this General Meeting of the Band shall be between 10 00 a m and 8 00 p m

Harold Prince
(Councillor - conseiller)Carl Ross
(Councillor - conseiller)Francis H. H. H.
(Councillor - conseiller)Alley H. H.
(Councillor - conseiller)[Signature]
(Chief - Chef)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

(Councillor - conseiller)

FOR DEPARTMENTAL USE ONLY - RÉSERVÉ AU MINISTÈRE				
1 Band Fund Code Code du compte de bande	2 COMPUTER BALANCES - SOLDES D'ORDINATEUR A Capital B Revenue - Revenu	3 Expenditure Dépenses	4 Authority - Autorité Indian Act Sec Art de la Loi sur les Indiens	5 Source of Fund Source des fonds <input type="checkbox"/> Capital <input type="checkbox"/> Revenue
6 Recommended - Recommandable		Approved - Approuvable		
Date		Date		
Recommending Officer - Recommande par		Approving Officer - Approuve par		

Prince George District,
Prince George, B.C.,
V2L 4X3,

April 10th, 1979,

Director,
Lands, Membership & Estates,
British Columbia Region.

985/31-5-614-1

985/31-5-614-1
cc 985/36-1-614 (ED1)
cc 985/8-17-614-1

Permit No. 73-X14167 -
Corporation of the Village of Port St. James.

Attached is Necoslie Band Council Resolution dated March 27th, 1979 which pertains to our exchange of correspondence that occurred between October 24th, 1977 and January 25th, 1978. Copies are attached for your convenience.

On the basis that subsequent to this exchange you indicated to me in conversation that we should assume approval-in-principle to this surrender, and the proposed lease terms, we intend to conduct a general meeting of the Necoslie Band on April 24th, 1979 for the intended Surrender. Notice of Intent and copies of the Voters' List have already been posted on the Reserve. We will prepare the required documentation as per recent Directives received from you.

Please advise immediately if you have any objection.

R.N. MCINTYRE,
A/DISTRICT SUPERINTENDENT OF ECONOMIC
DEVELOPMENT,
PRINCE GEORGE DISTRICT.

RNM:kjb.

Att.

cc.. Necoslie Band Council,
Port St. James, B.C.

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to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

Prince George District,
Prince George, B.C.,
V2L 4X3,

April 26th, 1979,

Director,
Lands, Membership & Estates,
British Columbia Region.

985/30-1-614

985/30-1-614 (SD1)

Surrender for Leasing - Necoslie Band,
Permit No. 73-X14167 and Village of Fort St. James.

Reference is made to our letter of April 10th, 1979.

The surrender meeting of the Necoslie Band was held as scheduled on April 24th and the outcome was that 62% of the eligible electors voted in favour of the Surrender.

Attached are the following:

1. Results of the Voting
2. Photocopy of the Register of Voters
3. Affidavit of Chief James T. Prince
4. Affidavit of the Departmental Officer, R.M. McIntyre
5. Document of Surrender
6. Control copy of the Voters' List
7. Copy of the Notice of the Intent of the Band Council dated March 19th, 1979
8. Photocopies of local newspaper articles regarding the surrender issue.

The Necoslie Band Council appear to have done a very good job of informing their membership of the issue to be voted on. Virtually no voter was without knowledge of the issue. Administratively, the Band Council were well prepared for the meeting. Individual members of the Council went from home to home on voting day to remind their people of the vote. An interpreter was on hand and available throughout the day and assisted with recording of the votes.

-- 2 --

Director,
Lands, Membership & Estates.

April 26th, 1979.

The Band and our staff will now be meeting with Fort St. James
to conclude final negotiations of the proposed lease. Please
therefore request the approving Order-in-Council as soon as
possible.

R.M. MCINTYRE,
A/DISTRICT SUPERINTENDENT OF ECONOMIC
DEVELOPMENT.

RMH:bgh.

Att.

RESULTS OF VOTE


In accordance with Sections 37-41 of the Indian Act RSC 1970, C. 1-6, the Necoslie Band at a general meeting called by the Council of the Band to vote on a surrender for lease of certain described portions of Necoslie Indian Reserve No. 1. Following are the results of that vote.

(1) Number of electors entitled to vote	<u>185</u>
(2) Number of electors who voted	<u>115</u>
(3) Number of votes cast in favour of question	<u>113</u>
Number of votes cast against the question	<u>2</u>
(4) Number of rejected ballots	<u>N/A</u>

The vote was taken by asking each voter if he or she understood the issue, explaining it if necessary and recording their preference for or against the Document of Surrender.


WITNESS


CHIEF OR COUNCILLOR


WITNESS


DEPARTMENTAL OFFICER

AFFIDAVIT OF CHIEF OR COUNCILLOR
FIRST MEETING OR FIRST REFERENDUM

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Communiqué en vertu de la
Loi sur l'accès à
l'information

CANADA)
Province of)
To Wit:)

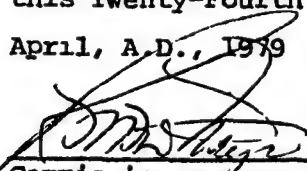
I, James T. Prince, Chief of the Necoslie Band of Indians, in the
Province of British Columbia, MAKE OATH AND SAY THAT.


1. I was present when the said Band of Indians made the surrender
referred to in the Document of Surrender, marked as Exhibit "A"
to this Affidavit.
2. The statements in the said Document of Surrender concerning the date of
the surrender, the surrender having been made to Her Majesty in Right
of Canada, the assent having been given at a general meeting called by
the Council of the Band, the description of the lands surrendered,

the purpose of the surrender, the conditions on which the surrender
was made and the number of electors who voted in favour of assenting
to the surrender and the number who voted against assenting to it
are true to my personal knowledge.

3. The terms of the said surrender were interpreted to the said electors
by an interpreter qualified to interpret from the English language to
the language of the said Indians.
4. That I am Chief of the said Band.

SWORN before me at Necoslie)
Reserve in the Province of)
British Columbia)
this Twenty-Fourth day of)
April, A.D., 1979)


Commissioner pursuant to
Section 108 (a) - Indian Act.



AFFIDAVIT OF SUPERINTENDENT OF
OFFICER APPOINTED BY THE MINISTER
FIRST MEETING OR FIRST REFERENDUM

*Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information*

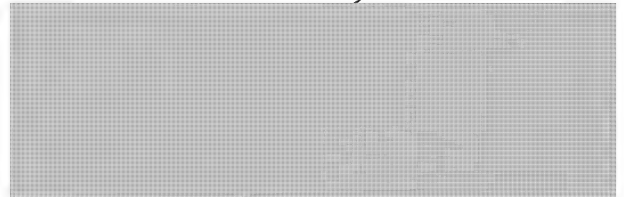
CANADA)
Province of)
To Wit:)

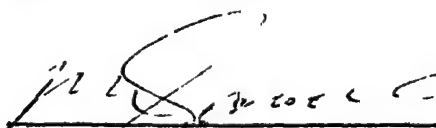
I, [REDACTED] of the City of Prince George, in the Province of British Columbia, Prince George District, MAKE OATH AND SAY THAT

- 1 I was present when the electors of the Necoslie Band of Indians assented to the surrender referred to in the Document of Surrender, marked as Exhibit "A" to this Affidavit.
2. The statements in the said Document of Surrender concerning the date of the surrender, the surrender having been made to Her Majesty in Right of Canada, the assent having been given at a general meeting called by the Council of the Band the description of lands surrendered,

the purpose of the surrender, the conditions on which the surrender was made and the number of electors who voted in favour of assenting to the surrender and the number who voted against assenting to it are true to my personal knowledge.

SWORN before me at Prince George)
in the Province of British Columbia)
this Twenty-Fifth day of)
April A.D , 1979)





Commissioner pursuant to
Section 108 (a) - Indian Act.

Number of eligible electors

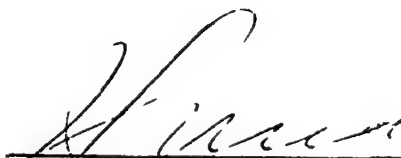
185

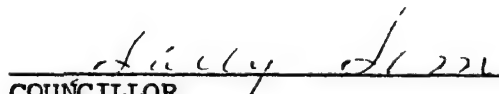
113

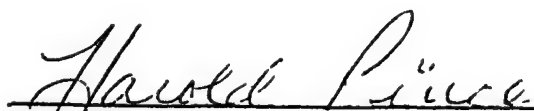
electors voted in favour of the
Document of Surrender, and


2

voted against assenting to the
Document of Surrender.


CHIEF

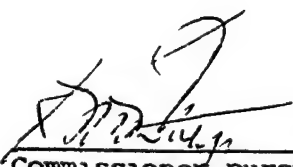

COUNCILLOR

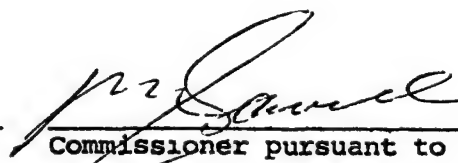

COUNCILLOR


COUNCILLOR

This is Exhibit "A to the
Affidavit of James T. Prince ,
sworn before me this 24th
day of
April , , 1979.

This is Exhibit "A' to the
Affidavit of Mac "Anna" McIntyre ,
sworn before me this 26th
day of
April , , 1979.


Commissioner pursuant to
Section 108 (a) - Indian Act.


Commissioner pursuant to
Section 108 (a) - Indian Act.

DOCUMENT OF SURRENDER

FIRST VOTE

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to Information Act
Communiqué en vertu de la
Loi sur l'Accès à
l'information*

A majority of the electors of the Necoslle Band of Indians, for whose use and benefit in common the Necoslle Indian Reserve was set apart, hereby assent to the surrender for a term of Fifty-Five (55) Years from the date hereof by that Band to Her Majesty in Right of Canada, at a general meeting called by the Council of the Band and held on the Twenty-Fourth day of April, 1979, that part of Necoslle Indian Reserve No 1, described as follows: all and singular that certain parcel or tract of land and premises situate, lying and being in Necoslle Indian Reserve No. 1 in the Province of British Columbia, containing by admeasurement 65 6 acres, more or less, and being composed of

1. All of Lot 220 as shown on Plan 56188, Canada Lands Surveys Records
2. All that part of Necoslle Indian Reserve No. 1 which is bounded on the west by the easterly boundary of Lot 220, on the south by the southerly boundary of Necoslle Indian Reserve No. 1 and on the north and east by the southerly and westerly limit of Necoslle Road as shown on Plan 59349 deposited in the said Canada Lands Surveys Records.

in order that Her Majesty in Right of Canada may lease the lands so surrendered on condition that the proceeds are to be held by Her Majesty in Right of Canada for the use and benefit of the said Indian Band, and on the further conditions that:

1. The purpose for which the land may be leased is for a sewerage lagoon site
2. Any lease entered into must be approved by the Necoslle Band.
3. That the whole or any part of the land hereinbefore described may be returned to full Reserve status by Order-in-Council on receipt of a Band Council Resolution by this or any succeeding Band Council when no longer required for leasing purposes.

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to Information Act*

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l'information*



PRIVY COUNCIL • CONSEIL PRIVE

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to Information Act
Communiqué en vertu de la
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l'information*

**P.C. 1979-3383
13 December, 1979**

**HIS EXCELLENCY THE GOVERNOR GENERAL IN
COUNCIL, on the recommendation of the Minister of
Indian Affairs and Northern Development, pursuant
to section 40 of the Indian Act, is pleased hereby
to accept the attached surrender dated April 24,
1979, by the Necoslie Band of Indians of 65.6
acres, more or less, in Necoslie Indian Reserve
No. 1, in the Province of British Columbia, in
order that the land described in the surrender may
be leased.**

CERTIFIED TO BE A TRUE COPY - COPIE CERTIFIÉE CONFORME

Marcel Massé

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to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

11191

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to Information ActCommuniqué en vertu de la
Loi sur l'accès à
l'informationLAKES DISTRICT
AUG 20 1980

Indian and Northern Affairs Affaires indiennes et du Nord

BAND COUNCIL RESOLUTION
RÉSOLUTION DE CONSEIL DE BANDE

Chronological No - Numéro consécutif

985614-22 (80-81)

File Reference - N° de ref du dossier

985/3-6-614.985/31-5-614-1

NOTE The words From our Band Funds Capital or Revenue whichever is the case must appear in all resolutions requesting expenditures from Band Funds

NOTA Les mots des fonds de notre bande Capital ou revenu selon le cas doivent paraître dans toutes les résolutions portant sur des dépenses a même les fonds des bandes

THE COUNCIL OF THE LE CONSEIL DE LA BANDE INDIENNE	NECOSLIE BAND	Current Capital Balance Solde de capital	\$ _____
AGENCY DISTRICT	PRINCE GEORGE	Committed - Engagé	\$ _____
PROVINCE	BRITISH COLUMBIA	Current Revenue balance Solde de revenu	\$ _____
PLACE NOM DE L'ENDROIT	FORT ST. JAMES	Committed - Engagé	\$ _____
DATE	19 AUGUST 80 DAY - JOUR MONTH - MOIS AD 19 YEAR - ANNÉE		

DO HEREBY RESOLVE
DÉCIDE, PAR LES PRÉSENTES

AND REQUEST THAT THE Department of Indian Affairs and Northern Development waive the rent owing from the Village of Fort St James in the amount of One thousand two hundred dollars (\$1,200 00) for the period August 1, 1979 to July 31, 1981 Said rent pertaining to Permit No 73-X14167

A quorum for this Band
Pour cette bande le quorum estconsists of
fixé àCouncil Members
Membres du Conseil

Ed. Lator
(Councillor - conseiller)
Luzene Duns
(Councillor - conseiller)
Mark Patrick

Sam Mose
(Chief - Chef)
K. S.
(Councillor - conseiller)
Le. H.
(Councillor - conseiller)

Mike M. L.
(Councillor - conseiller)
-
(Councillor - conseiller)

A0430859_233-001370

Manager,
Village of Fort St. James,
Fort St. James, B.C.
VOJ 1P0

209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

December 9, 1981

E5661-4-07538

Dear Sir:

Re: Necoslie Band
Water and Sewer

As water and sewer negotiations between the Village of Fort St. James and the Necoslie Band are not complete and the Band does not want the Department of Indian Affairs to accept your cheque until they are complete, we feel that the enclosed cheque should be returned to your office.

Yours truly,

BRIAN SHANTZ
A/LAND OFFICER
PRINCE GEORGE DISTRICT

cc. Chief, Necoslie Band



Government
of Canada

Gouvernement
du Canada

ROUND TRIP MEMORANDUM

Released under the Access

NOTE ALLER RETOUR

Communiqué en vertu de la

Loi sur l'Accès à

File No (originator) - Dossier no (source)

E 5661-4-07537

TO
A

Ton

File No (addressee) - Dossier no (destinataire)

Subject - Objet

Re. WATER/SEWER/LAGOON NEGOTIATIONS -

NECOSIE BAND & VILLAGE OF FORT ST JAMES

I CALLED NECOSIE BAND MEMBER VIOLET PRIMA TO-DAY FOR INSTRUCTIONS

ON WHAT WE SHOULD DO WITH THE \$3,000 CHEQUE IN OUR SAFE RECEIVED FROM

Fort St James

A MEETING IS SCHEDULED FOR NOVEMBER 23 OR 24TH - BAND & FORT ST JAMES

DISCUSS THIS ISSUE. IN CASE YOU AND/OR BAND CANNOT ATTEND, I HAVE

ASKED VIOLET TO PHONE INSTRUCTIONS TO YOU RE THIS CHEQUE

WILL YOU IN TURN ADVISE BUREAU IN FRANCE. WE HAVE HELD THIS

CHEQUE FOR SOME TIME NOW AND IT WILL SOON BE STATE DATED

Signature

Date

18 Nov 81

Reply - Réponse

Telecon Scott-Violet 26/11/81 - She says for DIA to hold cheque
for a while. I informed her it would become state-dated
so she said she would have Sam Morse call me back.
She said Sam Morse already left instructions with
someone? in this office as to what to do with the
cheque. H 26/11/81

Signature

Date

3

ORIGINATOR
SOURCE

Remove this copy and its carbon for follow up - Send copies 1 and 2 intact

Détacher cet exemplaire et le carbone A0430859_236-001373 - Envoyer les exemplaires 1 et 2 avec carbone

7540 21 029 0717

CGSB STANDARD FORM 59

FORMULE NORMALISÉE 59 DEL 0100

Mark

Sam } - made counter proposal to Village with
deadline of Dec 15/81

s.19(1)

Lease additional 10 acres

- land value surrounding leased lands greatly diminished

Brian - return cheque to Village. Recent
discussions Scott - Sam Moise Dec 4/81
says negotiations are between Mecoshe Band
and Village not finalized. That Mecoshe
Band issued a counter proposal to the Village's
proposal to the Band respecting Sewer & Water
Agreement with a deadline for response of
Dec. 15/81.

Sam does not wish Dept to accept
cheque on their behalf prior to finalizing negotiation.

is the Bands legal representative
on this matter according to Sam Moise

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to Information Act*

*Communiqué en vertu de la
Loi sur l'accès à
l'information*



THE CORPORATION OF

The Village of Fort St. James

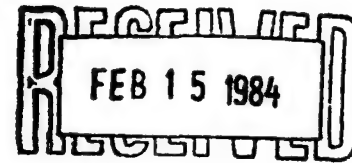
INCORPORATED 1952

♦ DRAWER 640 ♦ FORT ST JAMES B C ♦ VOJ 1PO ♦ TEL 996 8233 ♦

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to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

February 13, 1984



Edward John,
Barrister and Solicitor,
1274 - 5th Avenue,
Prince George, B.C.
V2L 3L2

Dear Sir

Re Village Lease of Portion of Necoslie Indian
Reserve #1

The Necoslie Band Office phoned this morning to inform us that the Band Council meeting will be held tomorrow, on February 14, 1984, rather than on February 21, 1984. We will not be available on the 14th, however, I discussed with the Band Secretary meeting on March 13, which is apparently the date of the next Necoslie Band Council meeting. We have tentatively agreed on this date, however, we will wait for confirmation.

At this time we would like to state that we do not need any additional lands for sewage disposal purposes, other than those that are covered by our existing lease. We would be pleased to meet with the Band, however, to discuss the existing lease and any other matters the Band would like to discuss.

Yours very truly,

[Redacted Signature]
Clerk/Administrator

GBW/cl

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to Information Act*

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Loi sur l'accès à
l'information*

EDWARD JOHN
BARRISTER AND SOLICITOR

*Released under the Access
to Information Act*
*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

1274 5TH AVENUE
PRINCE GEORGE B C V2L 3L2
TELEPHONE (804) 562 1726
OR (804) 562 6279
TELEX 047 7548 PGEO

OUR FILE A-102/81

YOUR FILE

April 17, 1984

Department of Indian Affairs
209 - 280 Victoria Street
Prince George, B C
V2L 4X3

ATTENTION Mr Brian Shantz

Dear Sirs

Please be advised that I act as Solicitor for the Necoslie Band. They were at one time negotiating a lease for certain 10 acres on Necoslie I R. #1 with the Village of Fort St. James. I met with the Council on April 10, 1984 and they have instructed me to request the following from you

1. Copy of existing lease arrangement with the Village of Fort St James together with copies of by-laws, Orders-in-Council and other authorities for the entering into of the lease.
2. Copy of any interim agreement(s) which may have been entered into after the execution of the initial lease

In addition the Council is requesting that your Department conduct a review and/or a re-survey of the lands on I.R. #1 which are the subject of the original lease and/or any interim agreements.

I enclose herewith a photocopy of a letter dated February 13, 1984 from the Village of Fort St. James indicating they do not require additional lands for their sewage disposal system. That being so, the Band at one time had surrendered a part of

.. 2

Page 2

April 17, 1984

Department of Indian Affairs

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*Communiqué en vertu de la
Loi sur l'accès à
l'information*

I R #1 for lease to the Village, the Council has requested
the lands now be "de-surrendered"

Should you have any questions, please call.

Sincerely,



EJ mm
Encl.

cc Necoslie Band

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to Information Act*

*Communiqué en vertu de la
Loi sur l'Accès à
l'information*

June 15th, 1984

A-102/81

E5661-4-07538

Edward John
Barrister and Solicitor
1274-5th Avenue
Prince George, B.C.
V2L 3L2

Dear [REDACTED]

In reference to your letter of April 17, 1984, concerning the Necoslie Band and the Village of Fort St. James please find attached a copy of the permit, Band Council Resolution, order in Council and particulars concerning surrender.

It is my understanding that the permit with the Village of Fort St. James is still in effect, that the land surrender has been completed, and that a lease can now be arranged between the Necoslie Band and the Village, if the Band desires it.

As your letter indicates the Band may want to cancel the surrender involving 65.6 acres. This can be arranged as the terms of the surrender indicate that the Band may request a "d" surrender simply by submitting a Band Council Resolution to that effect. As you are aware this will still leave 25.5 acres of 65.6 acres under the 40 year permit with the Village of Fort St. James.

In your letter you also mention that the Necoslie Band Council will be requesting a review and/or re-survey of certain lands on Necoslie I.R. #1. Departmental procedure is to have a Band submit a Resolution requesting a survey. It is also a good idea if the Band supports the Resolution with reasons why the survey is necessary, as the Region has very limited funds for surveys.

If you have any further concerns please contact the undersigned.

Yours truly,

BRIAN SHANTZ
DISTRICT SUPERINTENDENT
OF RESERVES & TRUSTS
PRINCE GEORGE DISTRICT
#209-280 Victoria St.
Prince George, B.C. V2L 4X3

c.c. Necoslie Band

From ^{DMA} file # 5600-7-614 - "Land-Surrendered Rights +
Titles, Nak'azdli Band"

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to Information Act

Communiqué en vertu de la
Loi sur l'accès à
l'information

June 15, 1984

E5643-614

Chief & Council,
Necoslé Band
P.O. Box 1329
Fort St. James, B.C.
V0J 1P0

Attention: Leonard Thomas, Band Manager

In reference to your letter of April 12, 1984, concerning your Band's leased lands, please note that I am now formally responding to your request for information. Also note that, due to your Band's need for the information, I did telephone your office a few weeks back and left messages for you.

On Sowchea Indian Reserve #3, there was 225 acres surrendered in 1959. Out of these 225 acres, your Band has lease agreements on the thirteen cottage lots on Sunset Beach.

As Sowchea Marsh, forming part of the Sowchea Reserve, is no longer being used by the Department of Environment for maintaining a waterfowl production area, and these lands are not being leased, it is possible to arrange to have these lands (approximately 185 acres) "d" surrendered, (having the lands returned to full reserve status.) For your information, these "d" surrenders follow the same lengthy procedures as regular surrenders do (i.e. authorization for a surrender meeting, preparation of a voters list, surrender meeting, order-in-council, etc.).

As Beaver Islands, Stuart Lake I.R. #9, and Stuart Lake I.R. #10, are surrendered and are not leased the same procedure of "d" surrender may be followed for them.

... /2

- 2 -

On the Necoslie Indian Reserve #one, it is noted that a letter permit on Lot 220, Plan 56188CLSR appears to still be in place; which gives the Village of Fort St. James, the right to use the lot for sewage lagoon purposes. Although these lands have been surrendered for leasing purposes, as you know, there is no lease to replace the original letter permit. In this particular case the surrender can be "d" surrendered by a simple procedure, of sending our Department a Band Council Resolution, followed by our obtainment of an order-in-council.

Please not that upon checking the status of your other reserves, we found no reserves or parts of reserves that need to be "d" surrendered.

We hope this letter answers most of your concerns.

Yours truly,

BRIAN SHANTZ
DISTRICT SUPERINTENDENT OF RESERVES & TRUSTS
PRINCE GEORGE DISTRICT
#209-280 Victoria Street
Prince George, B.C.
VZL 4X3

/ems



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

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Loi sur l'accès à
l'information

Certified Mail

July 29, 1988

Your file Votre référence

Our file Notre référence

5661-4-614-07538

The Corporation of the
Village of Fort St. James
P.O. Box 640
Fort St. James, B.C.
V0J 1P0

Dear Sirs:

Re: Permit/Agreement, Registry No. 73X14167
Her Majesty the Queen in right of Canada
WITH Village of Fort St. James
Dated 11th day of January 1971
SEWAGE LAGOON & TRUNK LINE ON Necoslie I.R. No. 1

In accordance with the above Permit, Clause 3. provides that the Annual Permit fee for the period 1 August 1988 to 31 July 1998, be reviewed, negotiated and set. We are awaiting the results of an Appraisal to determine a "fair economic fee". Once obtained, we will formalize the new fee.

Should you have any questions, please contact myself.

Yours respectfully,

DON W. REYNIERSE
DISTRICT LANDS OFFICER
A/SUPERINTENDENT,
LANDS, REVENUES & TRUSTS
OFFICER IN CHARGE
PRINCE GEORGE DISTRICT
209 - 280 Victoria Street
Prince George, B.C.
V2L 4X3

561-5152

Canada



Fish Works
Canada

Pacific Region

664-5

111-1-BC

111-1

Tra aux peuples
Canada

Région du Pacifique

111-1-111-1

Var- C E

111-1-111-1

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Communiqué en vertu de la
Loi sur l'accès à
l'information

111-1-111-1-0438

F-7

April 3, 1989

5410-1

Department of Indian & Northern Affairs
Box 1000 - 800 Burrard St
Vancouver, B.C. V6Z 2J3

Attention Peter Keltie
Lands Revenues & Trusts



Dear Sir

Re Appraisal Lot 220 Necoslie I.R. NO 1 - Fort St James

As requested, we have completed an appraisal on the above noted. The appraiser Mr Peter Ryks has concluded that the value of this 20 hectare site is currently \$75,000.00. The appraiser obviously had some difficulty in obtaining good comparable land sales and was required to make considerable adjustments to sales in the Vanderhoof area. This final estimate seems reasonable given his analysis of the four index properties.

If you have any questions or comments, please call me at 666-0637.

Yours truly,


Peter Clark, F.R.I.C.S., A.A.C.I., R.I.(B.C.)
Manager, Appraisal Program
Real Estate Division

encl.

Canada

A0430859_251-001388

s.19(4)



Carrier Sekani Tribal Council

REPLY TO:

☒ PRINCE GEORGE OFFICE

1450 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206
www.cstc.bc.ca

☐ HEAD OFFICE

Wet'suwet'en First Nation
PO Box 760
Burns Lake, B.C.
V0J 1E0



June 30, 2009

File No.: 614-01-02

Indian and Northern Affairs Canada
Suite 600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

Attention: Helen Beer, Capital Specialist

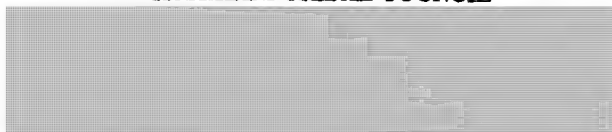
Re: CAPITAL PROJECT PROGRESS REPORTS

Attached is a Progress Reports for Nak'azdli Band's capital project. The report is for #5694 and covers the period April 1 to June 30, 2009.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL



Technical Services Coordinator
Technical Services Unit

attachments

cc: Chief Fred Sam, Nak'azdli Band
Leona Thomas, Nak'azdli Band

s.19(1)

CIDMS 1376546

FNITP ✓

CPMS PROGRESS RECORDED

**PROGRESS REPORT
ON CAPITAL PROJECTS**

First Nation Name	Nak'azdli Band		
Project Number	5694		
Project Title	Wastewater Collection, Treatment & Disposal		
SCHEDULE FOR PROGRESS REPORTS			
Project Start Date	Progress Report for the Period:	From	To
01/18/02		04/01/09	06/30/09
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pump house and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. D&K has provided deliverables to close 1st phase of project and prepared final numbers to do project. This will be revised to enable the District to complete in phases. Band 25% is covered in design cost. Documents have been forwarded to INAC for review and additional funding which has been approved & currently waiting for confirmation from Band of funding. Confirmation of funding from the Band has determined that the additional funds was not funded to date. An Override request will be submitted by the end of the week to request extension.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$218,462.00	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Received at DIAND by ✓

Date

6/30/09

JUL.20.2006 10:41 2505620900

(5694)

CARRIER SEKANI TECHNICAL SERVICE #0841 P.001/005

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to Information Act
Communiqué en vertu de la
Loi sur l'accès à l'information**Dayton & Knight Ltd.**
CONSULTING ENGINEERS#210 - 889 Harbourside Drive, North Vancouver
British Columbia, Canada V7P 3S1
Telephone: 604-990-4800 • Fax: 604-990-4805
E-mail: dkeng@dayton-knight.com

July 13, 2006

VIA FAX (1-250-562-0900) and MAIL

Mr. Reg Mueller, ASCT
Manager Technical Services
Carrier Sekani Tribal Council
200 - 1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

Dear Mr. Mueller:

Post-It™ Fax Note	7671E	Date	7/20/06	# of pages	3
To	[Redacted]				
Co./Dept.	Nak'azdli Band	Co.	Tech Services		
Phone #	996-7171	Phone #	562-8777		
Fax #	996-8010	Fax #	562-0900		

**RE: Nak'azdli Band/District of Fort St. James
Fort St. James Sewage Lagoon Upgrading
Estimate of Total Project Costs**

As requested, please find attached the following three spreadsheets which summarize the costs to date and estimated costs to complete this project:

- Table 1. Capital Cost Estimate
Table 2. Fee Estimate for Remaining Construction Services
Table 3. Summary of Total Project Costs

As you are aware, the project has been partially constructed (Replacement of the Blowers). Therefore, I have also attached the following spreadsheet summarizing the cost share for the District and the Nak'azdli Band, for both completed work and remaining work, and costs to date paid for by each, based on information provided by the District.

- Table 4. Summary Cost Sharing and INAC Funding

This spreadsheet also includes information regarding the remaining funding needed by the Band to complete the project, based on the discussions in our meeting of May 10, 2006.

We trust this meets your requirements. Please do not hesitate to contact us if you have any questions, or require further information.

Yours truly,

Dayton & Knight Ltd.

CC/yv
403.1
Encls.
cc: M

District of Fort St. James, By FAX 250-996-2248 and MAIL

**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 1: CAPITAL COST ESTIMATE

DESCRIPTION	UNIT	RATE	QTY	TOTAL
1. REPLACE BLOWERS (completed)				
Supply and deliver blowers c/w enclosure	lump sum	\$ 44,506.65	1	\$44,507
Supply and deliver VFD's	lump sum	\$ 20,754.00	1	\$20,754
Contract for installation	lump sum	\$ 35,200.00	1	\$35,200
Misc Items	lump sum	\$ 4,736.79	1	\$4,737
TOTAL				\$105,197
2. SLUDGE REMOVAL				
Sludge Analysis	lump sum	\$ 5,000	1	\$5,000
Sludge Withdrawal (personnel, hauling and disposal)	each	\$ 15,000	3	\$45,000
Develop compost site at landfill	lump sum	\$ 30,000	1	\$30,000
Operation of compost site	lump sum	\$ 15,000	1	\$15,000
Final application of sludge to landfill	lump sum	\$ 5,000	1	\$5,000
Sub-total				\$100,000
Contingency @ 10%				\$10,000
TOTAL, excludes GST				\$110,000
3. FINE BUBBLE AERATION SYSTEM				
Mobilization/Demobilization	lump sum	\$ 45,000	1	\$45,000
Supply & install steel air header pipe and 2	lump sum	\$ 95,000	1	\$95,000
Supply fine bubble diffusers, valves and piping for Cell 3	lump sum	\$ 45,000	1	\$45,000
Install Diffusers and Piping - Cell 1 and 2	lump sum	\$ 50,000	1	\$50,000
Install Diffusers and Piping - Cell 3 and 5	lump sum	\$ 40,000	1	\$40,000
Sub-total				\$315,000
Contingency @ 10%				\$31,500
TOTAL, excludes GST				\$346,500
SEPTAGE RECEIVING CHAMBER				
Mobilization/Demobilization	lump sum	\$ 10,000	1	\$10,000
Construct Septage Receiving Chamber	lump sum	\$ 85,000	1	\$85,000
Vehicle Access Road	lump sum	\$ 15,000	1	\$15,000
Lock-Block™ Retaining Wall	lump sum	\$ 25,000	1	\$25,000
Sub-total				\$135,000
Contingency @ 10%				\$13,500
TOTAL, excludes GST				\$148,500
TOTAL, ALL PHASES				\$710,197

**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 2: FEE ESTIMATE FOR REMAINING CONSTRUCTION SERVICES

	D&K Staff					Total
	Principle	Project Engineer	Inspector	Drafting	Word Processing	
Hourly rate (\$)	\$ 150.00	\$ 110	\$ 75	\$ 75	\$ 50	

Septage Receiving Station/De-sludging						
Engineering Fees						
Administer Tender Calls	15	30			10	\$ 6,050
Assistance with Regulatory Approvals	4	40				\$ 5,000
Resident Inspection Services			40			\$ 3,000
Engineering/Contract Administration	15	75			12	\$ 11,100
Post construction documents	4	8	6	12		\$ 2,830
Sub-total Hours	38	153	46	12	22	
Sub-total Fees	\$ 5,700	\$ 16,830	\$ 3,450	\$ 900	\$ 1,100	\$ 27,980
Disbursements						
Travel, Engineer Site Visits					\$ 1,500	
Travel and Accommodation for Inspector					\$ 2,000	
Tel, Fax, Courier					\$ 250	
Reproductions					\$ 250	
Material Testing					\$ 1,000	
Sub-total Disbursements						\$ 5,000
Total Fees and Disbursements						\$ 32,980

Aeration Upgrade						
Engineering Fees						
Administer Tender Calls	25	50			10	\$ 9,750
Resident Inspection Services			60			\$ 4,500
Engineering/Contract Administration	25	75			12	\$ 12,600
Post construction documents	4	8	6	12		\$ 2,830
Sub-total Hours	54	133	66	12	22	
Sub-total Fees	\$ 8,100	\$ 14,630	\$ 4,950	\$ 900	\$ 1,100	\$ 29,680
Disbursements						
Travel					\$ 1,500	
Travel and Accommodation for Inspector					\$ 2,500	
Tel, Fax, Courier					\$ 250	
Reproductions					\$ 250	
Material Testing					\$ 1,000	
Sub-total Disbursements						\$ 5,500
Total Fees and Disbursements						\$ 35,180

**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 3: SUMMARY TOTAL PROJECT COSTS

	Capital Costs	Engineering	Total Cost
COSTS TO DATE			
Pre-design/Design			
Pre-design Sampling Program		\$ 26,000.00	\$ 26,000.00
Design, Lagoon Upgrade		\$ 32,150.00	\$ 32,150.00
Design, Septage Receiving Station		\$ 5,200.00	\$ 5,200.00
Environmental Assessment		\$ 15,415.00	\$ 15,415.00
Additional Design Documents*		\$ 10,825.00	\$ 10,825.00
Additional Meeting in Fort St. James, May 2005		\$ 2,500.00	\$ 2,500.00
Sub-total Sampling and Design Phase		\$ 92,090.00	\$ 92,090.00
Construction			
Blowers	\$ 105,197.44	\$ 30,150.00	\$ 135,347.44
Sludge Sampling/Misc Costs	\$ 662.14		\$ 662.14
Additional Meeting in Fort St. James, May 2006		\$ 2,500.00	\$ 2,500.00
Sub-total Construction	\$ 105,859.58	\$ 32,650.00	\$ 138,509.58
TOTAL COSTS TO DATE	\$ 105,859.58	\$ 124,740.00	\$ 230,599.58
ESTIMATED COST TO COMPLETE			
Construction			
Septage Receiving Station/Sludge Removal	\$258,500.00	\$ 32,980.00	\$ 291,480.00
Fine Bubble Aeration Upgrade	\$ 346,500.00	\$ 35,180.00	\$ 381,680.00
Total, Estimated Cost to Complete	\$ 605,000.00	\$ 68,160.00	\$ 673,160.00
Total Estimated Project Cost	\$ 710,859.58	\$ 192,900.00	\$ 903,759.58

* O&M Manual and Contingency Plan

**NAK'AZKLI/DISTRICT OF FORT ST. JAMES
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 4: SUMMARY COST SHARE & INAC FUNDING

Funding and Cost Allocation Summary	To Date	Estimated to Complete	Total
Total Estimated Project Cost	\$ 230,599.58	\$ 673,160.00	\$ 903,759.58
<u>District of Fort St. James</u>			
Cost Share, 75%	\$ 172,949.69	\$ 504,870.00	\$ 677,819.69
Paid to Date			\$ 155,625.36
Remaining Cost to Contribute to Project			\$ 522,194.33
<u>Nak'azdli Band</u>			
Cost Share, 25% to be funded by INAC	\$ 57,649.90	\$ 168,290.00	\$ 225,939.90
Paid to Date			\$ 74,974.22
Remaining Cost to Contribute to Project			\$ 150,965.68
INAC Funding to Date to Nak'azdli Band			\$ 218,000.00
Deduct DDC costs from this amount, as per mtg. May 10, 2006			\$ 104,904.00
Adjusted INAC Funding to Date			\$ 113,096.00
Remaining Funding Needed from INAC			\$ 112,843.90

H. BEER
 File# 4380-614-5694
 A_B UNCLAS DOC# 1003591 C1
 ACL FS-SSU
 FOLDER

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name

Nak'azdli Band

Project Number

5694

Project Title

Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		01/01/08	03/31/08
Completion Date	unknown		

WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04).

Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. D&K has provided deliverables to close 1st phase of project and prepared final numbers to do project. This will be revised to enable the District to complete in phases. Band 25% is covered in design cost. Documents have been forwarded to INAC for review and additional funding which has been approved & waiting for confirmation from Band of funding..

.. Funded 10/02/07 \$75,910

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$187,725.15	\$218,462.00	98%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council

Date

Received at DIAND by

Date

Helen Beer

3/31/08

April 14/08

A0430862_8-001396

CPMS ✓



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et du Nord Canada

Indian and Northern
Affairs Canada

www.ainc-inac.gc.ca

October 31, 2007

Votre référence - Your file

Notre référence - Our file

Carrier Sekani Tribal Council
1460 - 6th Avenue
PRINCE GEORGE, B.C.
V2L 3N2

7380-614-5694

Attention: Audrey Osterhout, Technical Services Coordinator

**RE: NAK'AZDLI BAND (614)
WASTEWATER COLLECTION, TREATMENT AND DISPOSAL SYSTEM
IMPROVEMENTS - REQUEST FOR FUNDING FOR PHASE 2
CPMS #5694**

Dear Audrey;

The Department and Professional Technical Services have completed a review of the above-mentioned submission involving the construction of a septage receiving station, desludging treatment lagoons cell #1 and 2 and installing aeration equipment in Cells 1 and 2. A future Phase 3 will be required for de-sludging Cell #3 and adding new aeration for Cells #3 and #5. The treatment works are owned and operated by the District of Fort St. James and are located on reserve lands leased to the District. The requested funds represents 25% of the total costs in proportion with the Band's sewage flow volumes treated at the lagoons.

PTS technical review comments are as follows:

The Sewage Treatment Lagoon Assessment report by Dayton and Knight Consulting Engineers in June, 2000, recommended several upgrades to improve the performance of the plant, including: minimizing inflow/infiltration to the collection system during wet weather flows; converting from a coarse bubble aeration system to a fine bubble system; and construct a septage facility to accept septic tank pumper truck off-loading. In January, 2002, INAC funded \$218,462 including debt repayment of \$104,904.28 for improvements completed between 1984 and 2000, \$110,250 for treatment plant improvement design services, and \$3,308 (3% of design services) for CSTC project management fees.

.../2

Canada

- 2 -

New funding is supported for the Band's 25% share of project costs as follows:

Debt repayment - complete	\$104,904.00
Design services (25% of \$92,090) - complete	\$ 23,022.50
05/06 Blower replacements (25% of \$156,757.76) - complete	\$ 39,189.44
07/08 Construction (25% of \$486,950)	\$121,737.50
CSTC Project Management for 07/08	\$ 5,518.48
Subtotal	\$294,371.92
less funding to date	- 218,462.00
Funding required (rounded)	\$ 75,910.00

Total project cost including the 2007/08 work is now estimated at \$736,798 + \$104,904 debt repayment + \$5,518.48 CSTC = \$846,220. Should the Phase 3 work proceed, the total costs may exceed the \$903,760 total current shown in CPMS.

In that the sewage lagoons are owned and operated by the District of Fort St. James, no technical review of the upgrade design has been completed. The upgrades are within the footprint of the existing lagoons and are designed to improve the treatment of effluent.

We look forward to your response to the above comments. My apologies for the delay in responding to your letter.

Yours truly,



Helen Beer
Capital Specialist
Funding Services Directorate
#600 - 1138 Melville Street
VANCOUVER BC
V6E 4S3

cc: Leona Thomas, Nak'azdli Band
Christine Stahler, Funding Services Officer



Indian and Northern Affairs Canada Affaires indiennes
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Released under the Access
to Information Act
Communiqué en vertu de
Loi sur l'accès à
l'information

July 13, 2007, 2007

Your file - Votre référence

Our file - Notre référence

4380-614-5694

Nak'azdli First Nation
PO Box 1329
FORT ST. JAMES, BC V0J 1P0

Dear Chief and Council:

RE: Improvement Wastewater Collection, Treatment & Disposal System Project: 5694

For your information, the subject project has completed the review process and was recommended as eligible for funding. Included is a signed copy of the Capital Project Eligible Form for your records, noting the funding limit for which this project is eligible. Funding is subject to Old Masset Council meeting all of its reporting requirements, priority ranking of projects and the availability of funds in the regional capital budget.

No work should commence until the funds requested have been received – please be guided accordingly.

If you have any questions or concerns, please feel free to contact me at the number listed below.

Yours truly,

for Helen Beer, Capital Specialist
Special Services Unit
Funding Services
Telephone (604) 666-7289

c.c. Christine Stahler, Funding Services Officer

Enclosure

YANCOUVR-#210301-1-1-ELIGIBILITY_LETTERS.WPD
Canada

CAPITAL PROJECTS ELIGIBLE FORM

(Under \$2.0M)

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
British Columbia Region

FIRST NATION Nak'azdli

BAND NUMBER: 614

PROJECT NAME: Improvement Wastewater Collection,
Treatment & Disposal Syst

PROJECT LOG NUMBER: 5694

SERVICE CODE: 2484

TOTAL PROJECT COST: \$903,760

FUNDING LIMIT: \$294,372

FUNDED TO DATE: \$218,462

CONTINGENCY: \$0

FUNDING REQUIRED: \$75,910

SPECIAL NOTES: Impro to Village of Ft St James Wastewater System / Band share
25%

LEVEL:

Feasibility:

☐

Design:

☐

Acquisition / Construction:

X

Priority Rating:

29

Note: A progress report must be provided to DIAND each quarter for projects that are not complete within 90 days of funding

CAPITAL PROJECT SUBMISSION RECOMMENDED



Senior Capital Advisor

Date: 11 JUL 87

CAPITAL PROJECT SUBMISSION ELIGIBLE



Manager - Special Services

Date: July 12/07



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VANCOUVR-#745691-v1-614_5694_NAK'AZDLI_WASTEWATER_SYSTEM_PHASE_2_CONSTRUCTION_FUNDING_APPLICATION_
REVIEW_MEMO.WPD

INAC, Professional & Technical Services
1401, 1138 Melville Street
Vancouver, BC
V6E 4S3
Phone : 604-666-5167
Fax: 604-666-5159

Your file - Votre référence

Our file - Notre référence

Memorandum

File: E7380-614-5694 , Reading File

Date: May 10, 2007

To: **Helen Beer**

cc:

From: Don Fyfe

Subject: Nak'azdli Wastewater Collection, Treatment & Disposal CPMS #5694

This project file was forwarded April 30, 2007 for PTS review of a construction funding request for implementation of Phase 2 work involving the constructing a septage receiving station, de-sludging treatment lagoons cell #1 and 2, and installing aeration equipment in Cells 1 and 2. A future Phase 3 will be required for de-sludging Cell #3 and adding new aeration for Cells #3 and #5. The treatment works are owned and operated by the District of Fort St. James and are located on reserve lands leased to the District. The requested funds represent 25 % of the total costs in proportion with the Band's sewage flow volumes treated at the lagoons.

The Sewage Treatment Lagoon Assessment report by Dayton and Knight Consulting Engineers in June, 2000, recommended several upgrades to improve the performance of the plant, including: minimizing inflow/infiltration to the collection system during wet weather flows; converting from a coarse bubble aeration system to a fine bubble system; and construct a septage facility to accept septic tank pumper truck off-loading. In January, 2002, INAC funded \$218,462 including debt repayment of \$104,904.28 for improvements completed between 1984 and 2000, \$110,250 for treatment plant improvement design services, and \$3,308 (3% of design services) for CSTC project management fees.

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05/06 Blower replacements (25% of \$156,757.76) - complete	\$ 39,189.44
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CSTC Project Management for 07/08	\$ 5,518.48
Subtotal	\$294,371.92
less funding to date	- 218,462.00
Funding required (rounded)	\$ 75,910.00

Total project cost including the 2007/08 work is now estimated at \$736,798 + \$104,904 debt

Page 1 of 2

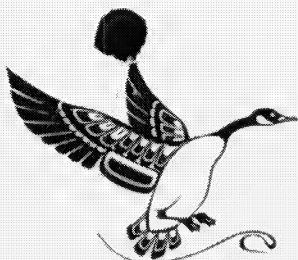
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repayment + \$5,518.48 CSTC = \$846,220. Should the Phase 3 work proceed, the total costs may exceed the \$903,760 total current shown in CPMS.

In that the sewage lagoons are owned and operated by the District of Fort St. James, no technical review of the upgrade design has been completed. The upgrades are within the footprint of the existing lagoons and are designed to improve the treatment of effluent.

Carrier Sekani Tribal Council



June 20, 2007

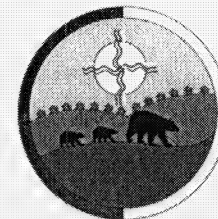
REPLY TO:

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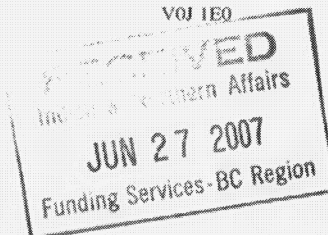
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☐ HEAD OFFICE

Wet'suwet'en First Nation
 PO Box 760
 Burns Lake, B.C.
 V0J 1E0



File No.: 7100-614



Indian and Northern Affairs Canada
 Suite 600 - 1138 Melville Street
 Vancouver, BC
 V6E 4S3

F. GELINAS
 Files: 4380-614-5694
 A.B. UNCL DOC# T11661 C3
 ACL FS-SSU
 FOLDER
 CC: H. BEER

Attention: Helen Beer, Capital Specialist**Re: CAPITAL PROJECT PROGRESS REPORTS**

Attached are Progress Reports for the Nak'azdli Band's capital projects. The reports are for #4191, #5692 and #5694 and covers the period April 1 to June 30, 2007.

Please call me at 250.562.8999 if you have any questions.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

CPMS ✓
 MB ✓

Audrey Osterhout
 Technical Services Coordinator
 Technical Services Unit

attachments

cc: Chief Leonard Thomas, Nak'azdli Band
 Leona Thomas, Nak'azdli Band

PROGRESS REPORT ON CAPITAL PROJECTS

First Nation Name	Nak'azdli Band
Project Number	5694
Project Title	Wastewater Collection, Treatment & Disposal

SCHEDULE FOR PROGRESS REPORTS

Project Start Date	Progress Report for the Period:	From	To
01/18/02		04/01/07	06/30/07
Completion Date	unknown		


WORK PROGRESS COMPARED TO ORIGINAL PROJECT PLAN

Consultant has been advised to proceed on the sewage treatment pre-design phase of the project. Wastewater sampling was completed in December. Pre-design is now under review. Design has been completed and is currently under review by the Band and the District of Fort St. James prior to submitting to INAC for review. Also still waiting for final documents from D&K to prepare submission (Consultant was reminded of need to finalize on 4/30/04). Consultant provided revised budget for increase in scope of work which is currently being reviewed. A meeting of all parties was held Jan./05 to confirm project direction. Awaiting confirmation from DFSJ if this project will proceed this year. A meeting was held 5/31/05 re: future. D&K advised to close project and forward documents to CSTC. DFSJ completed the replacement of blowers in the pumphouse and provided confirmation of funding for the septage tank portion of project. Septage receiving station tender were way over so will re-tender in spring '06. Sludge sampling complete by D&K. Results to determine method of sludge disposal. DFSJ to select which option to use to proceed to the next phase. D&K has provided deliverables to close 1st phase of project and prepared final numbers to do project. This will be revised to enable the District to complete in phases. Band 25% is covered in design cost. All project documents have been submitted to INAC with a request for funding for Phase 2 2007/08 work on 4/12/07.

STATEMENT OF EXPENDITURES COMPARED WITH PLANNED CASH FLOW

Spent To Date	Budgeted	Percentage of Work Completed
\$218,462.00	\$218,462.00	100%

I certify that the information above is accurate and comprehensive

Project Manager authorized by First Nation's Council	Date
 TS Cond	6/20/07
Received at DIAND by	Date

PROFESSIONAL & TECHNICAL SERVICES DIRECTORATE

Capital Project Review Document

Capital Project Management System # 5694

A. PROJECT DATA:

First Nation: Nak'azdli Recipient #: 614

Project Name: Improvement Wastewater Collection, Treatment & Disposal Syst Reserve:

FSO: Total Project Cost: \$ 903,760

CS: Helen Beer CFNFA (Yes / No):

B. SUBMISSION:

Feasibility: ☐ Pre-Design / Design: ☐ Acquisition / Construction: ☒ Post Completion: ☐

Funding Limit: \$ 294,372

Contingency: \$ 0

Project Proposal: Yes ☒ No ☐

Environmental Assessment: Yes ☒ No ☐ N/A ☐

Land Encumbrance: Yes ☒ No ☐ N/A ☐

C. REVIEW SUMMARY:

	Meets	Does Not Meet	N/A
Level of Service Standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Applicable Design Standards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost Effectiveness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Implementation Plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Environmental Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Excluded: upgrades to
existing sewage treatment
lagoons

The above-noted project proposal has been reviewed in accordance with departmental standards and its compliance to those standards is indicated above. **Where the proposal does not meet established standards, an explanation is provided in an attached memorandum dated:** CIDMS# 745691

PROPOSED PROJECT PRIORITIZATION:

29 (Cost shared with District of Fort St. James)

Professional & Technical Services

Date

May 10/07

CPMS #: 5694

D. PROFESSIONAL & TECHNICAL SERVICES REVIEW COMMENTS:

(a) Water Resources Engineer: Signature: _____ Date: _____

Comments: _____

(b) Environmental Engineer: Signature: _____ Date: _____

Comments: _____

(c) Elec./Mech Engineer/Architect: Signature: _____ Date: _____

Comments: _____

(d) District Engineer: Signature: _____ Date: _____

Comments: _____

E. PROFESSIONAL SERVICES:

Comments: _____

Manager, Professional Services

Date

F. CPRD REQUEST FROM SPECIAL SERVICES UNIT (SSU):

Request: *Don - Please see attached funding
submission for Phase 2. Please review.*

Helen Beer - Capital

April 30/07

Checklist for Acquisition/Construction Stage Funding Application **

Project Name Nak'azli Wastewater Treatment Upgrade
 CPMS # 5694 Capital Specialist Helen Baer

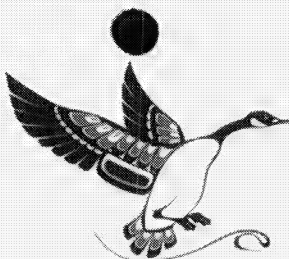
	Omitted	Submitted	Not Applicable
FN Letter Supporting Design		✓ <u>CSTC</u>	
Project Description & Rationale		✓	
Project Implementation Plan		✓	
Final Design Report - Sealed		✓	
• Design Drawings - Sealed		✓	
• Specifications - Sealed		✓	
• Design Brief		✓	
• Contract Documents			✓
• Class 'A' Total Capital Cost Estimate		✓	
• Draft Commissioning Plan			✓
• Cash Flow Projection			✓
• Environmental Assessment Report		✓	
• Land Encumbrance Check		✓	
▶ Right-of-ways Identified/Confirmed			✓
• Required Permits			✓
▶ Draft Timber Permit			✓
▶ Other Draft Permits			✓
• Class 'A' O&M Cost Estimate			✓
• Draft O&M Manual			✓
• Draft O&M Plan			✓
• O&M Training Plan			✓
• Comments from Regulatory Agencies		✓ <u>District of Fort St. James</u>	
Cost Estimate to Finalize O&M Manual & Plan			✓
Design Report Filed in Technical Library		<u>CIDMS # 732762</u>	
Proposal for Consultant Services			✓
Cost Estimate for Consultant Services		✓	
Final Construction Mgmt. Business Plan			✓
TB Style Submission			✓

PTS
 PWGSC for INAC Reviewer: 

Date: May 10/07

** Checklists are for the use of PWGSC for INAC. Information listed may not all be required or additional information may be required.

Carrier Sekani Tribal Council



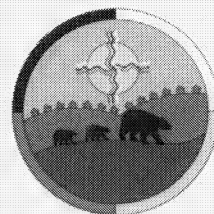
REPLY TO:

☒ PRINCE GEORGE OFFICE

1460 - 6th Avenue
Prince George, B.C. V2L 3N2
Phone: (250) 562-6279
Fax: (250) 562-8206
www.cstc.bc.ca

☐ HEAD OFFICE

Wet'suwet'en First Nation
PO Box 760
Burns Lake, B.C.
V0J 1E0



April 12, 2007

Special Services Unit
Indian and Northern Affairs Canada
600 - 1138 Melville Street
Vancouver, BC
V6E 4S3

File No.: 614-01-02

F. Gelinas
File# 4380-614-5694
A-B UNCL DOC# 103163.01
ACL FS-SSU
FOLDER
cc: H. Beer, D. Fyfe

Attn: Ms. Helen Beer, Capital Specialist

Re: Nak'azdli Band (614)
Wastewater Collection, Treatment and Disposal System Improvements
- Request for Funding for Phase 2 - 2007/2008 Construction (CPMS #5694)

This letter is to provide information and documents for the funding submission currently under review by INAC (see attached letter 11/7/06 from Frank Gelinas, CS ("A")).

Project Summary

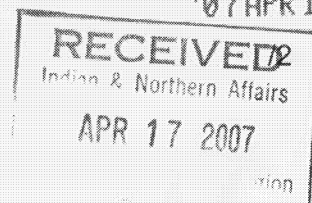
CPMS 5694 - the Wastewater Collection, Treatment and Disposal System Improvements Project - for the Nak'azdli Band deals with improvements to the existing lagoons located on Nak'azdli I.R. #1 in Fort St James, BC. The lagoon serves both the Nak'azdli Band and the District of Fort St James and is located on land leased by the District from the Band. The lagoon is operated by the District through a Municipal Type Service Agreement with the Nak'azdli Band.

Dayton & Knight Consulting Engineers were commissioned to investigate the operation and effluent quality of the lagoons and make recommendations for operational improvements and systems upgrades. This was primarily done to rectify odor and effluent quality problems with the lagoons. Their investigations resulted in a list of recommended upgrades, and estimates for the works were prepared. The project was subsequently submitted to INAC in 2001 and received funding under CPMS 5694.

Phase 1 of the works were constructed in the 2005/2006 construction season and the work included:

- Replacement of Blowers
- Sludge Sampling and Miscellaneous costs
- Project management, Design adjustments

'07 APR 16 AM 10:20



Helen Beer, Capital Specialist, INAC
April 12, 2007

Page Two

Phase 2 – Nak'azdli Band and the District now wish to proceed with the next phase of the project during the 2007/2008 construction season and the work will include:

Septage Receiving Station
Cell 1 and 2 Desludging
Aeration of Cells 1 and 2

Phase 3 - The 2007 works do not include the Phase 3 works which will be completed in future construction seasons. Phase 3 will include:

Desludging of Cell 3
New aeration for Cell 3
New aeration for Cell 5

Project Financial Summary

Table 1 – Total Project Cost to Phase 2

Project Phase	Expenditure	Phase 2 Requirement	Future Phase 3 Requirement	Totals
Predesign / Design	\$ 92,090.00			\$ 92,090.00 ✓
Phase 1 Construction 2005/2006	\$156,757.76	(new blowers, sludge pump, design adjts)		\$156,757.76 ✓
Phase 2 Current Phase 2007/2008 Construction		\$486,950.00		\$486,950.00
Total Project Cost				\$735,797.76

Table 2 – Summary Total Project Cost and INAC Funding

Total Project Cost	\$735,798
Nak'azdli Band Portion (25%)	\$183,950 ✓
CSTC, Technical Services Unit Proj. Mgt Fee (3%)	5,519 ✓
Total Estimated Band Cost – Phase 2	\$189,469 ✓
Costs paid to date	113,557 ✓
Estimated Band costs to complete - Phase 2	\$ 75,912
INAC Funding to Date	\$218,462 ✓
Less INAC Funding of MISA <i>debt reduction</i>	104,904 - ?
Adjusted INAC Funding to Date	\$113,557
Costs paid to Date (see attached TSU Project Summary ("B"))	\$113,557
Remaining INAC funding	\$ 0
Remaining funding needed from INAC - Phase 2	\$ 75,912

/3

Helen Beer, Capital Specialist, INAC
April 12, 2007

Page Three

In summary, the Nak'azdli Band requests funding for the 2007 construction phase in the amount of **\$75,912**.

In support of this request for 2007/2008 funding we are enclosing the following documents ("C") for your reference and outlines in greater detail the proposed 2007/2008 scope of works and estimated costs and the financial status of the project:

Letter to the Nak'azdli Band from the District of Fort St. James (1/4/07) including attached letter from Dayton & Knight to the District of Fort St James (12/18/06) regarding the Phasing and costs for 2007 construction.

Also included is one copy of each of the following signed and sealed Project documents ("D"):

- Sewage Treatment Lagoon Upgrading – Design Brief – February 2006
- Upgrade of the Existing Sewage Lagoon – Contract Documents – Contract No 403.1 – December 2003
- Sewage Treatment Lagoon Upgrading – Operations & Maintenance Manual – "Draft" – February 2006
- Sewage Lagoon – Emergency Response Plan – February 2006
- Sewage Treatment Lagoon Upgrading – Environmental Assessment Report – February 2006

Once Nak'azdli Band has a commitment from INAC for 2007/2008 funding they can coordinate the works with their consultant and with the District of Fort St. James.

If you have any questions or require additional information, please contact me at tel: 250.562.8999 or email: aosterhout@cstc.bc.ca.

Sincerely,

CARRIER SEKANI TRIBAL COUNCIL

Audrey Osterhout
Technical Services Coordinator
Technical Services Unit

Attachments

cc: Brenda Thomas, Nak'azdli Band
Chief Administrative Officer, District of Fort St. James
Radloff & Associates (letter only)



Indian and Northern
Affairs Canada
www.inac.gc.ca

Affaires indiennes
et du Nord Canada
www.ainc.gc.ca



November 07, 2006

Brands



Your file - Votre référence
E4300-1

Our file - Notre référence

Chief and Council
Nak'azdli

Dear Chief and Council:

Re: Capital Project Number 5694
Improvement Wastewater Collection, Treatment & Disposal Syst *INAC 112,382*

I am writing to advise that the above noted capital project proposal has been entered into B.C. Region's Capital Project Management System (CPMS) and is currently under review.

You will be further advised of the status of this submission when the review has been completed. If the proposal as submitted is complete, a determination of eligibility for funding will be made once the review is complete.

If it is necessary to correspond with us regarding this project, please reference the project number noted above. If you have any questions please contact your Capital Specialist.

Yours truly,

[Signature]
Capital Specialist
Funding Services Directorate
Suite 600, 1138 Melville Street
Vancouver, BC V6E 4S3

cc. Funding Services Officer

Canada

(B)

Wastewater Collection, Treatment & Disposal System Improvements

Nak'azdli Band

#5694 - 614-01-02 - PROJECT SUMMARY

One-time Debt Reduction		\$104,904.28	✓
Pre-design/Design Cost Estimate Consultant		\$110,250.00	✓
Sub-total		\$215,154.28	
3% Mgt. Fee		\$3,308.00	✓
Total budget		\$218,462.28	
Funded	1/18/2002	\$218,462.00	✓
		\$218,462.00	

Supplier	Comment	Activity	Inv. #	Invoice Amount	Balance
Budget					\$218,462.00
District of FSJ		Debt reduction		\$104,904.28	\$113,557.72
D&K		to Apr 30	34193	\$1,194.27	\$112,363.45
D&K		to May 31	34380	\$1,422.52	\$110,940.93
D&K		to June 30	34568	\$1,571.19	\$109,369.74
D&K		to Aug 31	34879	\$1,024.47	\$108,345.27
D&K		to Sept. 30	35098	\$2,444.88	\$105,900.39
CSTC	3% Proj. Mgt			\$3,308.00	\$102,592.39
D&K		to Nov. 30	35596	\$590.00	\$102,002.39
D&K		to Jan 31/03	35933	\$1,697.50	\$100,304.89
D&K		to Feb 28/03	36167	\$5,735.24	\$94,569.65
D&K		to Mar 31/03	36412	\$5,253.41	\$89,316.24
D&K		to Apr 30/03	36655	\$2,041.39	\$87,274.85
D&K		to May 31/03	36831	\$5,270.53	\$82,004.32
D&K		to June 30/03	37079	\$13,450.38	\$68,553.94
D&K		to July 31/03	37287	\$6,165.46	\$62,388.48
D&K		to Aug 31/03	37549	\$3,722.11	\$58,666.37
D&K		to Sept. 30/03	37681	\$8,790.76	\$49,875.61
D&K		to June 30/04	39591	\$16,128.25	\$33,747.36
D&K		to July 31/04	39798	\$676.55	\$33,070.81
D&K		to Aug 31/04	39982	\$599.21	\$32,471.60
D&K		to Dec 31/04	40894	\$1,734.75	\$30,736.85
District of FSJ		1/6/2006	1414	(\$30,736.85	\$0.00
				(bal owing to DFSJ \$6038.14)	
Spent to date				\$218,462.00	

7657.33

71,855.54

DHK total = 79,512.87 (funded \$110,250 as part of \$218,462)



DISTRICT OF
Fort St. James

OFFICE OF ADMINISTRATION

Box 640, Fort St. James, BC V0J 1P0
Tel. (250) 996-8233 • Fax (250) 996-2248

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January 4, 2007

Nak'azdli Band
PO Box 1329
Fort St. James, BC
V0J 1P0

Attention: Brenda Thomas

Dear Ms. Thomas:

**RE: District of Fort St. James/Nak'azdli Band
Fort St. James Sewage Lagoon Upgrading
Project Phasing – 2007 Construction**

Further to our meeting of December 1, 2006, we are pleased to offer this letter confirming the District's intentions for the construction of lagoon upgrades in the 2007/2008 construction year.

The District's engineering consultant, Dayton & Knight Ltd., has reviewed the scope of the designed upgrades, the costs, and the seasonal construction limitations and recommended a construction plan for 2007/2008. We attach a copy of Dayton & Knight Ltd.'s letter of recommendations.

As explained in the letter, the District wishes to move forward with works which will provide the greatest level of benefit; one of the key objectives being the reduction in odor potential from the existing anaerobic lagoon cells.

The estimated construction budget for 2007 is \$487,000. Including costs to date for planning, design and 2005 blower construction, the total project cost is estimated to be \$736,000. The works include:

- Septage Receiving Station
- Cell 1 and 2 Desludging
- Aeration of Cells 1 and 2

The works do not include desludging of Cell 3 or new aeration to Cells 3 and 5.

The District recognizes that the Band (via INAC funding) has already paid \$82,820.87 towards project planning and design costs. The District has also invoiced the Nak'azdli Band for the amount of \$37,638.86 for 25% of the cost of the 2005/2006 blower installation. It appears that this amount remains unpaid as a result of being higher than remaining INAC funding and being invoiced prior to INAC technical approval as "Eligible for Funding."

The District wishes to plan for 2007 construction and requires confirmation of funding sources in order to confirm capital spending requirements. As per Dayton & Knight Ltd.'s recommendations, we suggest that the Band:

- Enter the District's invoice (\$37,638.86) for 2005/2006 construction costs into the Band's project costs, but only pay the remaining funding amount of \$30,736.85.
- Request funding from INAC in the amount of \$75,910.20 for the estimated balance to cover 25% of the total costs to the end of the 2007/2008 year.

With payment of the \$30,736.85 and a commitment towards the balance of 25% of the total cost, the District will be able to plan for the 2007 construction in a planned and organized fashion. We trusted this letter and attachments are sufficient for Nak'azdli and CSTC communications with INAC. Please do not hesitate to call if you require any further information.

Yours truly,



Nigel Black
Chief Administrative Officer

cc. Scott Bilbrough, P.Eng., Dayton & Knight Ltd.
Audrey Osterhout, CSTC Technical Services



Dayton & Knight Ltd.
CONSULTING ENGINEERS



#101 - 2700 Queensway Street, Prince George
British Columbia, Canada V2L 1N2
Telephone: 250-562-0038 • Fax: 250-562-0058
E-mail: pgeorge@dayton-knight.com

Our Commitment is to Sustain a Healthy Environment

December 18, 2006

Administrator
District of Fort St. James
PO Box 640
Fort St. James, BC
V0J 1P0

Attention: [REDACTED] Administrator

Dear Mr. Black:

**RE: District of Fort St. James/Nak'azdli Band
Fort St. James Sewage Lagoon Upgrading
Project Phasing – 2007 Construction**

Further to our recent meeting with the District of Fort St. James, Nak'azdli Band and Carrier Sekani Technical Services, we are pleased to offer this letter with recommendations for 2007 project construction phasing. The project has been designed to include upgrades which will reduce odors, increase system efficiency, and improve effluent quality for a twenty-year design horizon. Components of the upgrade include a septage receiving station, lagoon desludging, installation of new aeration in the anaerobic cells (1 and 2), and replacement aeration in Cells 3 and 5.

Funding limitations and seasonal construction limitations make it infeasible to construct all of the proposed works in one season. Separating the works into too many smaller phases will realize higher costs due to contractor mobilization and repetition in contact administration and construction engineering. Previous correspondence to the District of Fort St. James on May 5, 2006 and the Nak'azdli Band on July 13, 2006 provided 2006 construction estimates and options for construction staging. No works were constructed in 2006. This letter provides a recommended staging that combines the 2006 and 2007 works outlined in the May 5, 2006 letter. These works were previously identified as Phasing Option 1.

For 2007/2008, the proposed works include:

- Install Septage Receiving Station.
- Desludge Cell 1.
- Install aeration header pipe and aeration piping within Cell 1. Return Cell 1 to service.
- Desludge Cell 2.

- Install aeration piping in Cell 2. Return Cell 2 to service.

The above works will control the introduction of septage into the treatment lagoon system and will provide aeration in Cells 1 and 2. These combined works will improve effluent quality and achieve odor reduction; odors from the site have caused nuisance to members of the Nak'azdli Band.

In order to assist the District of Fort St. James and the Nak'azdli Band in planning for the 2007 construction season, we have reviewed the project costs to date, the estimated 2007 costs, cost sharing and INAC funding to date. We attach the following project cost information and estimates:

- Table 1 Estimated 2007 Construction Costs
- Table 2 Summary of Estimated Project Costs
Costs to Date and Costs to Complete 2007 Works
- Table 3 Summary of Cost Sharing and INAC Funding

The attached cost estimates have assumed that the Cell 3 and 5 aeration will be completed as a separate project; therefore, the total project cost, including costs to date, is now estimated to be approximately \$736,000. Of this, \$249,000 has been incurred to date (part by the District and part by the Band) and \$487,000 is estimated to be required for the 2007/2008 construction season.

The Municipal Type Servicing Agreement (MTSA) between the District of Fort St. James, the Nak'azdli Band and INAC plays an important role in this project. The fundamental cost sharing principal of the agreement is that the Nak'azdli Band, via funding from INAC, will provide 25% of the total project costs. INAC also provides additional fee to the Nak'azdli Band to have Carrier Sekani Technical Services provide project management and technical guidance during the course of the project. Table 3 shows the 25% cost sharing amounts for costs to date and estimated total costs. Table 3 also shows the project costs paid out of the pocket by each party to date.

Table 3 shows that, based upon the estimated 2007 costs, the Band should expect to incur additional 2007 costs in the order of \$106,647.05. Of this amount, \$30,736.85 remains unspent from the original INAC funding and \$75,910.20 represents additional funding needs.

Recently, INAC has communicated that this project is "Eligible for Funding" and has asked:

- Can the remaining balance of INAC funding be spent on approved costs before March 31, 2007?
- What are the estimated Band/INAC costs for the 2007/2008 fiscal year?

The District has already incurred the costs of construction of the blower improvements (in 2005/2006, and has invoiced the Band in the amount of \$37,638.86. This amount remains unpaid. We suggest that the Band pay the remaining available funding amount of \$30,736.85 to the District and that the District request confirmation from the Band/CSTC/INAC of the availability of the additional \$75,910.20 for estimated 2007 construction costs.

Payment by the Band of the remaining funds and confirmation of approval and availability of the remaining \$75,910.20 would allow the District of Fort St. James to confirm their capital requirements for 2007.

Trusting the proposed construction phasing for 2007, attached cost estimates and cost sharing proposals meet your expectations, we look forward to answering any questions you may have.

Yours truly,

Dayton & Knight Ltd.

Scott Bilbrough, P. Eng.

SBi/km
330.020

cc. Dayton & Knight Ltd.



Dayton & Knight Ltd.
CONSULTING ENGINEERS

December 18, 2006

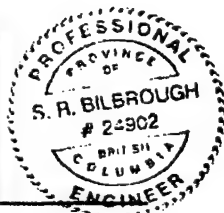
**DISTRICT OF FORT ST. JAMES/NAK'AZDLI BAND
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 1: PROPOSED 2007/2008 CAPITAL COST ESTIMATE

DESCRIPTION	UNIT	RATE	QTY	TOTAL
<u>1. SLUDGE REMOVAL</u>				
Sludge Analysis	lump sum	\$ 5,500.00	1	\$ 5,500.00
Sludge Withdrawal (Personnel, Hauling and Disposal)	each	\$ 16,500.00	2	\$ 33,000.00
Develop Compost Site at Landfill	lump sum	\$ 22,000.00	1	\$ 22,000.00
Operation of Compost Site	lump sum	\$ 11,000.00	1	\$ 11,000.00
Application of Sludge to Landfill	lump sum	\$ 5,500.00	1	\$ 5,500.00
Sub-total				\$ 77,000.00
<u>2. FINE BUBBLE AERATION SYSTEM</u>				
Mobilization /Demobilization	lump sum	\$ 25,000.00	1	\$ 25,000.00
Supply and Install Steel Air Header Pipe	lump sum	\$ 100,000.00	1	\$ 100,000.00
Supply Diffusers and Piping - Cell 1 and 2	lump sum	\$ 50,000.00	1	\$ 50,000.00
Install Diffusers and Piping - Cell 1 and 2	lump sum	\$ 45,000.00	1	\$ 45,000.00
Sub-total				\$ 220,000.00
<u>3. SEPTAGE RECEIVING CHAMBER</u>				
Construct Receiving Chamber	lump sum	\$ 85,000.00	1	\$ 85,000.00
Vehicle Access Road	lump sum	\$ 15,000.00	1	\$ 15,000.00
Sub-total				\$ 100,000.00

SUBTOTAL ESTIMATED 2007 CONSTRUCTION COST	\$ 397,000.00
CONTINGENCY (10%)	\$ 39,700.00
DOCUMENT REVISIONS, TENDERING, PERMITS	\$ 16,750.00
CONSTRUCTION ENGINEERING	\$ 33,500.00
TOTAL ESTIMATED 2007 COSTS (EXCLUDING GST)	\$ 486,950.00

Estimate



Scott Bilbrough, P.Eng.

330.020



December 18, 2006

**DISTRICT OF FORT ST. JAMES/NAK'AZDLI BAND
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 2: TOTAL ESTIMATED PROJECT COSTS (2007/2008)

	Capital Costs	Engineering	Total Cost
COSTS TO DATE			
Pre-design/Design			
Pre-design Sampling Program		\$ 26,000.00	\$ 26,000.00
Design Lagoon Upgrade		\$ 32,150.00	\$ 32,150.00
Design, Septage Receiving Station		\$ 5,200.00	\$ 5,200.00
Environmental Assessment		\$ 15,415.00	\$ 15,415.00
Additional Design Documents*		\$ 10,825.00	\$ 10,825.00
Additional Meeting in Fort St. James, May 2005		\$ 2,500.00	\$ 2,500.00
Sub-total Sampling and Design Phase Costs		\$ 92,090.00	\$ 92,090.00
2005/06 CONSTRUCTION COSTS			
Blowers	\$ 105,197.44	\$ 30,150.00	\$ 135,347.44
Sludge Sampling/Misc. Costs	\$ 662.14		\$ 662.14
2006 Project Managemnet, Design Adjustments		\$ 20,748.18	\$ 20,748.18
Sub-total Construction Costs	\$ 105,859.58	\$ 50,898.18	\$ 156,757.76
Sub-total Costs to Date	\$ 105,859.58	\$ 142,988.18	\$ 248,847.76
ESTIMATED 2007/08 CONSTRUCTION COSTS			
Septage Receiving Station/Sludge Removal	\$ 177,000.00	\$ 20,250.00	\$ 197,250.00
Fine Bubble Aeration Upgrade	\$ 220,000.00	\$ 30,000.00	\$ 250,000.00
Contingency			\$ 39,700.00
Sub-total Estimated 2007/08 Construction Costs	\$ 397,000.00	\$ 50,250.00	\$ 486,950.00
TOTAL ESTIMATED 2007/08 PROJECT COSTS TO THE END OF 2007/08	\$ 502,859.58	\$ 193,238.18	\$ 735,797.76

25% = 62,211.94

25% = 183,949

Debt repaid + 104,904

+ CSTC

840,701.76
5,518.48
846,220.24

+104,904
288,854



December 18, 2006

**DISTRICT OF FORT ST. JAMES/NAK'AZDLI BAND
UPGRADE OF SEWAGE LAGOON
CPMS #5694**

TABLE 3: SUMMARY OF PROPOSED 2007/08 COST SHARE & INAC FUNDING

FUNDING AND COST ALLOCATION SUMMARY	TO DATE	ESTIMATE TO COMPLETE 2007	TOTAL
Total Estimated Project Cost	\$ 248,847.76	\$ 486,950.00	\$ 735,797.76
<u>District of Fort St. James</u>			
Cost Share, 75%			\$ 551,848.32
Costs Paid to Date			\$ 169,334.89
Estimated District of Fort St. James Costs to Complete 2007/08			\$ 382,513.43
<u>Nak'azdli Band</u>			
Cost Share, 25%			\$ 183,949.44
3% CSTC Fee			\$ 5,518.48
Total Estimated Band Costs			\$ 189,467.92
Costs Paid to Date			\$ 82,820.87
Estimated Band Costs to Complete 2007/08			\$ 106,647.05
INAC Funding to Date to Nak'azdli band			\$ 218,462.00
Deduction of MTSA costs, as per mtg. May 10, 2006			\$ 104,904.28
Adjusted INAC funding to Date			\$ 113,557.72
Costs Paid to Date			\$ 82,820.87
Remaining 2006/07 INAC Funding			\$ 30,736.85
Remaining Funding Needed from INAC			\$ 75,910.20

330.020



Dayton & Knight Ltd.
CONSULTING ENGINEERS



#101-2700 Queensway Street
Prince George, BC, Canada V2L 1N2
Telephone: 250-562-0038 • Fax: 250-562-0058
E-mail: pgeorge@dayton-knight.com

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TRANSMITTAL SHEET

TO: [REDACTED] - Technical Services
Coordinator
Carrier Sekani Tribal Council
Technical Services Unit

DATE: Jan 18, 2007

FILE NUMBER: 330.002

FROM: [REDACTED]

Re: Nakazdli Band – Ft. St. James Lagoons

Proposed 2007 Construction

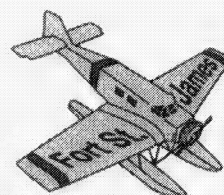
Dear Ms. Osterhout,

We are pleased to deliver five sets of design documents for the above referenced project. Please do not hesitate to call if you have any questions or require further information.

Sincerely, [REDACTED]



NAK'AZDLI BAND

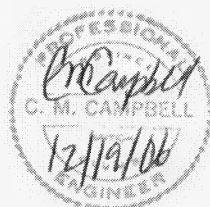


DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING

DESIGN BRIEF

FEBRUARY 2006



DAYTON & KNIGHT LTD.
Consulting Engineers

LIMITATIONS AND DISCLOSURE

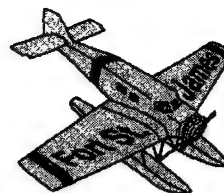
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NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADING
DESIGN BRIEF**

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 - 2.2 Permit Effluent Criteria
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Dayton & Knight Ltd.
CONSULTING ENGINEERS

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 - 6.1 Environmental Assessment Report
 - 6.2 Waste Management Act Permit
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- 7.0 COST ESTIMATE
- 8.0 SCHEDULE

TABLES

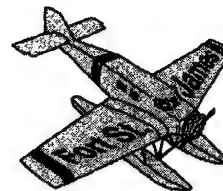
APPENDICES

- A 1-Year Sampling Program
- B Permit
- C Capital Cost Estimate





NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING DESIGN BRIEF

1.0 INTRODUCTION

The District of Fort St. James operates a lagoon facility for the treatment of domestic sewage from the community of Fort St. James and the Nak'azdli Band. The lagoon is located on Necoslie IR1, on land leased by the District of Fort St. James, who operates the lagoon through an MTSA (Municipal Type Servicing Agreement) with the Nak'azdli Band.

The system generally operates well, producing an effluent quality well within the limits of its permit. In 2000, Dayton & Knight Ltd was commissioned to carry out a study to assess the sewage treatment lagoon system. The plant was visited by Dayton & Knight Ltd in the fall of 1998 and again in February 1999. The study included: an assessment of the operation of the existing system; an evaluation of the impacts of receiving septage; identification of maintenance issues and items in need of repair or upgrading, to provide at least a twenty-year operation horizon; and evaluation of odour-related issues and discharge criteria issues. This report recommended the following:

1. Replace the blowers.
2. De-sludge the lagoon cells on a consecutive cell basis.
3. Upgrade the aeration system by installing a fine bubble aeration system in Cells 1, 2, 3 and 5.
4. Construct a septage receiving facility consisting of a 14 m³ holding tank

The above upgrades have been designed. The following report summarizes the design information used to prepare the design.



Dayton & Knight Ltd.
CONSULTING ENGINEERS



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING DESIGN BRIEF

2.0 EXISTING PLANT FACILITIES

2.1 General Description

Sewage enters the Fort St. James sewage treatment lagoon facility through a 300 mm diameter sewer, which discharges into a series of five lagoon cells. Screening of the sewage is not provided at the facility prior to lagoon treatment.

The normal process stream flows sequentially from cell 1 to cell 5 before final discharge into the Necoslie River.

Cells 1 and 2 are small, anaerobic treatment cells, which serve as a primary treatment step, with a retention time of approximately two days at the present estimated average daily flow. Cell 3 is an aerated cell, with a retention time of approximately 15 days. Cell 4 is an aerated cell, which is used for effluent polishing prior to chlorination/dechlorination, and has a retention time of approximately 38 days. Cell 5 is an aerated effluent polishing cell prior to discharge to the Necoslie River.

Aerated cells 3, 4, and 5 are provided with coarse bubble diffusers. Cell 3 functions primarily to remove BOD₅ and has approximately 33 diffusers. Cell 4 has 5 diffusers near its effluent end and cell 5 has 7 diffusers.



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Wastewater flows from cell 4 into a chlorination-dechlorination contact chamber, and passes through a flowmeter, which records the plant flows on a chart recorder, before discharge into cell 5. Dechlorination is not currently practiced, since the long retention and aeration provided in cell 5 has been sufficient to remove any trace of chlorine in the effluent. The chlorination system uses chlorine gas, and the dechlorination system uses sodium bisulphite solution.

The lagoon cells are interconnected to each other using a system of pipes, manholes and intercell control structures. This enables changes to the flow configuration to be made for the purpose of isolating a lagoon cell for service or repair.

Aeration air is provided by three positive displacement blowers (one 37 kW, and two 18 kW units). Typically, one 18 kW unit operates during the winter months, and either one 37 kW unit or both 18 kW units operate during the remainder of the year. Each of the smaller blowers delivers approximately 330 L/s, and the larger blower delivers 570 L/s. Air is distributed to the lagoons by a system of submerged air piping, and is introduced into the lagoons by means of submerged coarse bubble (static tube type) aerators.

The plant effluent discharges from cell 5 into an outfall sewer that discharges into the Necoslie River. The outfall is provided with a diffuser to distribute the effluent across the width of the river.

2.2 Permit Effluent Criteria

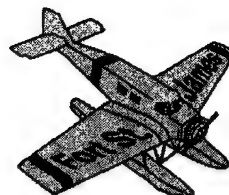
The Waste Management Act Permit (PE-00239) sets the effluent criteria as follows:

- | | |
|--|------------------------|
| - 5 Day Biochemical Demand (BOD ₅) | 30 mg/L |
| - Total Suspended Solids (TSS) | 30 mg/L |
| - Maximum Rate of Sewage Discharge | 3200 m ³ /d |





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3.0 PLANT LOADINGS

3.1 Population

An estimate of the present and future total population served by the lagoon facility was re-assessed in the 2000 pre-design report. It was determined that the connected population to the treatment facility in 2000 was 3,100, plus additional loading from septage from septic tanks for 770 people. The following table summarizes the project population to 2020.

**TABLE 3.1
PROJECTED POPULATIONS**

Year	Population	Population Connected to Sewer
2000	3,870	3,100
2005	3,271	4,083
2010	3,498	4,366
2020	4,995	4,000

The design population for the existing lagoon system is 5,000. The 2000 population of the community of 3,870 is expected to grow to approximately 5,000 in 20 years (an average growth rate of 1.35% per year.)



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3.2 Flows

The permit for the treatment system requires that the plant does not discharge in excess of 3,200 m³/d.

Daily average flows were assessed in the 2000 pre-design study, and are summarized in Table 3.2 below, as recorded by the effluent flow meter from January of 1995 through December of 1997.

**TABLE 3.2
CURRENT FLOWS TO TREATMENT PLANT**

Year	1995	1996	1997
Avg. Annual Flow (m ³ /d) (A)	1,065	1,345	1,440
Avg. Monthly Day (m ³ /d) (Max. out of 12 months) (B)	1,750	1,786	2,853
Avg. Weekly Day (m ³ /d) (Max. out of 52 weeks)	0.750	2,216	3,399
Maximum Day (m ³ /d) (Maximum out of 365 days per year)	2,016	2,456	3,575
Max. Monthly Infiltration (m ³ /d) (A-B)	685	441	1,413

Flows were reasonably consistent throughout the year, except during the spring snowmelt period, when flows increased substantially, likely due to a significant increase in infiltration and inflow into the sewer system. A review of this plant flow data from 1995 through 1997 shows that the ratio of average daily flow (during peak month) to average annual flow was approximately 1.7 to 1.

The average daily flow for the period 1995 through 1997 was 1,285 m³/d. Based on a sewered population of 3,100, the per capita daily flow contribution is approximately 415 L/cap/d. This is consistent with the typical municipal water consumption allowance used in sewer design of between 350 L/cap/d to 450 L/cap/d.



The difference between the annual average daily flow and the maximum month average day gives an indication of the maximum average infiltration for the wettest month of the year. This ranged from 685 m³/d to 1,413 m³/d, or approximately 65% to nearly 100% of the flow contribution from sewage alone.

The 20-year design horizon assumes a future sewered population in Year 2025 of 4,000. Based on a conservative flow allowance of 450 L/cap/d, the future design average daily flow is calculated to be 1,800 m³/d. The flow contribution from septic tank users on a daily basis is negligible, and was not considered. (The contribution to the biological loading is presented in the following section.)

For the purpose of calculating plant loadings, we have assumed that future population growth will be accompanied by improvements to the sewerage system to limit the contribution from inflow and infiltration, and that infiltration will not exceed 65% of dry weather flows. This equates to a daily average of the maximum month infiltration of 1,200 m³/day, which added to 1,800 m³/day average daily flow equates to a maximum day flow of 3,000 m³/day for the 20-year (Year 2025) design conditions.

3.3 Organic Loadings

3.3.1 Sewage

The primary organic loading parameters of concern are the total five-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS). Historical data were not available for the influent sewage strength to the plant with the exception of two influent samples taken and analysed for the 2000 study. These samples indicated the influent sewage was of low strength compared to the design criteria. However, these samples were taken at approximately 8:00 a.m., when flows are typically at a peak, and, therefore, the plant influent will tend to be more dilute.

Therefore, textbook guidelines of 100 g/cap/d for BOD₅, and of 120 g/cap/d TSS daily loadings were used to determine lagoon influent loadings.

Table 3.2 summarizes the calculated organic loading to the plant for the present and future projected populations.

3.3.2 Septage

Although the BOD₅ contribution from septic tank users is not significant on average, it has a large short term impact on the operation due to the septage being discharged in high concentrations and in large volumes, over a relatively short period of time.

The quantity of septage typically delivered to the site varies from one half to a full truckload (approximately 9,000 litres) usually during the months May through August. The strength of septage can be highly variable. Typical values for BOD₅ and TSS for septage are 8,000 mg/L, and 30,000 mg/L, respectively. Table 3.3 below compares the daily loading to the plant on a day when one full septage truck load is discharged to the plant, compared to the current average annual conditions during dry weather conditions.

**TABLE 3.3
ESTIMATED EFFECT ON PLANT LOADING FROM
SEPTAGE AT CURRENT CONDITIONS**

	BOD ₅	TSS
Mass load (kg/d), sewers	310	372
Mass Load (kg/d), septage discharge	72	270
Increase in loading compared	23%	73%

The BOD₅ loading from septage has a large immediate impact on the oxygen availability in the lagoon and impacts effluent quality in the short term, until such time as this excess load is diluted and treated. This practice also has an impact on odour, since increased consumption of oxygen tends to favour septic conditions in the lagoon, which can result in odour production.

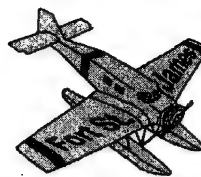


There is a greater impact from septage discharges on the TSS loading to the plant compared to BOD₅ loading. However, on average, TSS does not have a large impact on lagoon functioning due to the large surface area available for this material to settle.





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4.0 PLANT PERFORMANCE ANALYSES

4.1 Historical Effluent Quality

Generally the effluent quality from the plant is satisfactory, and has rarely exceeded the permit limits of 30 mg/L BOD₅ and 30 mg/L TSS. Average effluent quality data is presented in table 4.1 below.

**TABLE 4.1
AVERAGE ANNUAL EFFLUENT DATA**

Year	pH	BOD ₅	TSS	Fecal Col.
		(mg/L)	(mg/L)	(CFU/100 mL)
1998	7.77	11	10	8
1997	7.66	10	22	1
1996	7.87	8	12	2

The data indicates that effluent BOD₅, pH and fecal coliform concentrations are relatively stable, low and generally do not exceed the permit limit of 30 mg/L.

Historical effluent quality data from 1996 through 1998 shows that effluent TSS concentration and fecal coliform counts peaked during all three years of data during the late spring and summer months of May through August. In 1997, the effluent TSS concentration exceeded the permit on several occasions. This is likely due to a combination of factors, which includes pollen release from surrounding trees, relatively high infiltration and inflow due to snow melt, and septage dumping.

The pollen which settles on the surface of the lagoons are light, small particles which are hard to settle. The pollen particles are carried into the effluent in suspension, contributing to the effluent TSS, and indirectly to the Fecal Coliforms. High Fecal Coliforms counts tend to be associated with high suspended solids concentrations, because the sewage absorbed by the suspended solids particle goes untreated.

4.2 Design Analysis

The performance of the existing lagoon system was modelled for both the existing population and the design population, for both average day flow and maximum daily flow conditions. The results of this modelling are summarized in Table 4.2.

Aerated cells 3, 4 and 5 act as partially mixed cells. These were analyzed by first order kinetics where the BOD₅ remaining after a certain time in a cell is calculated by the following equation:

$$C = C_o / (1 + kt_d)$$

where:	C	=	BOD ₅ in cell effluent
	C _o	=	BOD ₅ entering cell
	k	=	cell TBOD ₅ kinetic rate constant (days ⁻¹)

For this analysis, a partially mixed kinetic rate constant, (k_{PM}), of 0.276 day⁻¹ at 20°C was used. (This value is a commonly used design value suggested for use for partially mixed lagoons by W.E.F.). To adjust k_{PM} for the liquid wastewater temperature, the following formula is used:



$$k_T = k_{20} \times \Theta^{(T-20)}$$

where: Θ is assumed to equal 1.086 for partially mixed aerated cells

The analysis for summer water temperature was based on the maximum month flow rates, and the analysis for winter water temperatures was based on the average annual flow. The analysis is based on the influent concentrations shown in Table 3.1. The cell oxygen requirements were based on a factored 2:1 ratio of O_2 required to BOD_5 removed. This factor provides a safety margin to account for peak BOD_5 loadings, benthic demands, nitrification, and associated odour concerns should oxygen become deficient.

The two anaerobic lagoons (cell 1 and cell 2) are complex to model, as there is a limited amount of research or operating data available for calculating the performance of anaerobic lagoons. However, it is known that the treatment efficiency of anaerobic lagoons is low compared to an aerated lagoon. Effluent quality from anaerobic lagoons is typically twice as concentrated as that from aerobic lagoons. This approximation was applied to this model.

TABLE 4.2
TREATMENT ANALYSIS
THEORETICAL EFFLUENT CONCENTRATIONS

	Present (2000)		20 Year Projected (2020)	
	BOD_5 (mg/L) [Average Annual Flow of 1,285 m ³ /d]	BOD_5 (mg/L) [Maximum Month Flow of 2,700 m ³ /d]	BOD_5 (mg/L) [Average Annual Flow of 1,800 m ³ /d]	BOD_5 (mg/L) [Maximum Month Flow of 3,000 m ³ /d]
Influent	250	130	240	140
Cell 1 Effluent	230	112	216	132
Cell 2 Effluent	214	104	205	124
Cell 3 Effluent	84	43	97	54
Cell 4 Effluent	18	9	27	13
Plant Effluent	14	7	22	10

The above results show that the lagoon system has sufficient volume to achieve the required BOD₅ effluent requirements. The calculations predict BOD₅ in the lagoon effluent to be in the order of 7 mg/L to 10 mg/L, for present as well as future conditions, which is well below the permit requirement of 30 mg/L.

The predicted present day BOD₅ effluent quality is also close to the measured BOD₅ effluent quality, which lends confidence to the theoretical calculations.

Effluent TSS quality cannot be similarly modelled. However, effluent quality below 30 mg/L can be typically maintained if the retention time in the settling cell is at least 2 days. Cell 4, which functions as a settling cell has a retention time of 23 days, under future maximum day conditions. Under all normal operating conditions (with the exception of heavy pollen periods combined with high inflow), effluent quality for suspended solids can be expected to be maintained below 30 mg/L by the existing plant.

4.3 Assessment of Aeration Requirements

The theoretical effluent quality data in Table 4.2 is based on the assumption that the lagoon system is functioning normally, and that sufficient aeration is provided in the aerated cells to meet the treatment requirements.

Table 4.3 below compares the aeration provided in each of the cells to the approximate aeration required in each cell, in order to maintain the effluent quality shown in Table 4.2.



TABLE 4.3
AIR FLOW REQUIREMENTS

	Maximum Provided Aeration Air (L/s)	Theoretical Required Aeration Air (L/s) for Maximum Flow Month	
		Present (2000)	20 year (2020)
Cell 3	480	416	527
Cell 4	76	227	311
Cell 5	104	15	22

For present conditions, cells 3 and 5 have an excess of supply and cell 4 is deficient in air supply. For the 20 year condition, cell 3 will be marginally deficient in air, cell 4 will be under-aerated, and cell 5 will have adequate air.

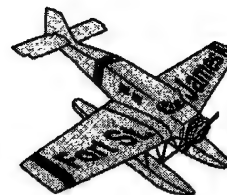
Effluent quality is generally satisfactory, indicating that for present conditions no overall additional aeration capacity is required although as noted, on an individual basis, cell 4 has less than half the aeration it should have. For future conditions, additional aeration is recommended, as both cells 3 and 4 will not have adequate air with the present system.

Substantial operational cost savings may be realized by upgrading to a different type of aeration system.





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5.0 RECOMMENDED UPGRADING

5.1 Influent Works

The influent works at the Fort St. James treatment plant consist of a series of manholes that allow diversion of the inflow either into lagoon cells 1, 2, 3 or 4. The lagoon has not experienced problems with floating materials. Therefore, no upgrades to the influent works are recommended at this time.

5.2 Physical Condition of Lagoons

The lagoons are in a good state of repair and generally function well. There is no evidence of any damage to the clay liner of the lagoon cells and no evidence of seepage or leakage from the lagoon. The inter-cell control structures between the lagoon cells also generally function well.

5.3 Sludge Accumulation

The lagoons have not been de-sludged since being commissioned. To date, effluent quality has not degraded as a result of sludge accumulation as the lagoons are lightly loaded in relation to their large physical size.



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Sludge level measurements were carried out by District staff in 1999. The sludge level measurements indicated that the average sludge depth in cell 2 is approximately 1.2 metres. It is expected that the sludge depth in cell 1 is similar. The sludge volume present in these two cells is estimated to be 1,000 m³ to 1,300 m³.

Attempts were made to measure the sludge level within cell 3. The sludge in the third cell will have undergone degradation which causes the sludge to typically be of a light consistency which is hard to detect. Therefore, it is assumed that the sludge depth in cell 3 is approximately 0.3 m.

It is recommended that the lagoon cells 1, 2 and 3 be de-sludged concurrent with other upgrading.

The District of Fort St. James and the Bulkley Nechako Regional District are working together to formulate a desludging and sludge disposal plan. It is proposed that District staff isolate and drain the cell to be de-sludged, and allow the cell to dry for a period of time. If necessary, wood chips will be added to the sludge to facilitate removal of the sludge and transportation to the nearby landfill. At the landfill site, the dry sludge will be stored on a flat area and a containment ditch will be constructed around the site to catch run off, which would be pumped out if necessary and the liquid would be disposed of at the lagoon. The material will be allowed to compost for a year, and in the following year, the material would be applied as cap material to the old landfill. Alternatively, the material could be applied directly to the landfill, if this acceptable to the Regional District and MOE. MOE has indicated that they may be willing to issue an Approval for this application, as long as any health or environmental concerns that may arise are mitigated, which will be confirmed through an appropriate sampling regime prior to application to the landfill.

5.4 Aeration System

5.4.1 Option Selection

In the 2000 Dayton & Knight Ltd study to assess the sewage treatment lagoon system, four options for upgrading the aeration system were assessed. The four options considered were:

1. Upgrade the existing aeration system using coarse bubble aeration (similar to present system).
2. Supplement the existing aeration system using aspirating surface aerators.
3. Replace the coarse bubble aeration system in cells 3, 4 and 5 using a fine bubble aeration system.
4. Convert anaerobic lagoons 1 & 2 to aerated cells using fine bubble aeration, and also upgrade cells 3 and 5 using fine bubble aeration.

The criteria considered to assess the options were capital cost, energy efficiency (operational costs), and operational simplicity. Option 2 was eliminated because it is typically only economical to replace a coarse bubble aeration system with aspirating surface aerators in situations where the entire system needs to be replaced, and where the volume of the lagoons is relatively small in relation to the wastewater flow.

A summary of the costs for each remaining alternative are shown in Table 5-1 below.

TABLE 5-1
SUMMARY OF COSTS FOR AERATION SYSTEM UPGRADE ALTERNATIVES

Treatment Option	Total Costs (1999 dollars)
Option 1 - Coarse Bubble	\$645,000
Option 3 - Fine Bubble in cells 3, 4, and 5	\$626,000
Option 4 - Fine bubble in cells 1,2, 3 and 5	\$366,000

It was recommended that Option 4 (fine bubble aeration be provided in cells 1 & 2, and that the coarse bubble aeration in cells 3 and 5 be replaced with fine bubble aeration) be constructed subject to a one year sampling program and assessment of the data to confirm the lagoon treatment efficiency.

This study was subsequently completed and confirmed the assumed lagoon treatment efficiency.

The following table presents the results of a spreadsheet model of the lagoon system for Option 4.

**TABLE 5-2
TREATMENT ANALYSIS
THEORETICAL EFFLUENT CONCENTRATIONS**

	Present (2000) Population (Population = 3,870)		20 Year (2020) Population (Population = 5,000)	
	BOD ₅ (mg/L) [Average Daily Flow of 1285 m ³ /d]	BOD ₅ (mg/L) [Peak Month Flow of 2700 m ³ /d]	BOD ₅ (mg/L) [Average Daily Flow of 1800 m ³ /d]	BOD ₅ (mg/L) [Peak Month Flow of 3000 m ³ /d]
Influent	250	130	230	140
Cell 1 Effluent	168	89	167	107
Cell 2 Effluent	116	66	124	81
Cell 3 Effluent	29	18	38	24
Cell 4 Effluent	4*	2*	6*	8*
Plant Effluent	2*	2*	4.5*	5*

* Although these results are predicted by the model, in reality effluent concentration lower than 10 mg/L will rarely be accomplished.

The model results confirm that the effluent quality from cell 3 would be of sufficient quality to meet permit requirements, and that it is not necessary to provide aeration in cell 4.



5.4.2 Description of Recommended Aeration System

The existing submerged piping and coarse bubble diffusers in cells 3 and 5 will be removed and replaced with new piping and fine bubble diffusers. New piping and fine bubble diffusers will also be installed in cells 1 and 2.

The aeration system will be a "submerged header" system and will consist of weighted polyethylene pipes for the units which rest on the lagoon bottom. Diffusers will be of the membrane type, and connected to the header pipe using flexible polyethylene piping laterals. The diffusers will also be weighted to rest on the lagoon floor, and will be individually retrievable using floats.

The existing 200 mm and 150 mm \varnothing FRP air headers located in the berm separating Cells 3 and 5 will be re-used for distributing air to the new aeration equipment in these cells. They will be provided with adapters for connection of the new aeration laterals. A new air pipe will be installed from the control building to cells 1 and 2 and will be tied in to the existing 300 mm \varnothing blower discharge air header at its capped end. This will provide air for the new aeration systems in these cells.

The specification provides the performance criteria for the design, fabrication, delivery, and installation of prefabricated aeration diffusers, piping (header piping and laterals). The performance criteria specified includes flows, loadings, temperature and effluent quality requirements.

Approved manufacturers of the aeration system are Air Research Inc. as supplied by Sanitherm Engineering and Environmental Dynamics Inc., as supplied by Novatech Equipment.



5.5 Aeration Blower System

The three existing aeration blowers have been in service for approximately 15 years. These units are nearing the end of their useful design life and are in a poor state of repair, and should be replaced. The following equipment was specified:

- Equipment Model Aerzen Delta Blower Package GM 30L
- Equipment Application Lagoon aeration system air blowers and accessories
- Manufacturer Aerzen Canada Blowers Compressors Inc.
- Rated Capacity 425 L/s (900 CFM)
- Rated Pressure 5 m.H₂O (7 P.S.I.D.)
- Intake Air Temperature -20°C to 25°C
- Power Supply 575 V, 3 Ph, 60 Hz
- Service Factor 1.15
- Motor output power 30 kW (40 hp)
- Motor Type VFD Duty Rated
- Explosion Hazard Area Classification N/A
- Driver Control Hand/Off/Auto switch (for each blower)
- Blower Speed Operating Speed at the design flow rate and pressure shall be suitable for a 20 year service life.
- Drive Type V-belt (with belt guard)
- Drive Speed 1800 rpm
- Environment Indoors
- Temperature 10oC to 30oC
- Noise Limit 80 dBA at 1 metre at any location around the blower acoustic enclosure



5.6

Chlorination and Dechlorination Systems

The chlorination and dechlorination systems are in good condition, although they have been in service for over 15 years.

The existing chlorine contact tank situated between cell 4 and cell 5 has a capacity of approximately 52 m³. The MOE requires that chlorine contact time be a minimum of 60 minutes under all conditions. To meet this requirement, the tank is sufficiently sized for flows up to 2,500 m³/d. The chlorine contact time is adequate for present day conditions but is slightly undersized for the future projected maximum day flow of 3,000 m³/d.

As mentioned previously, the dechlorination system is not used. However, this system can be re-commissioned if required.

Although the chlorine contact tank is slightly undersized for the project future maximum day flow, it is not recommended that these systems be upgraded at this time.

It is important to note that the new Municipal Sewage Regulation (MSR), which became effective on July 15, 1999, states that "The discharger must review and assess alternative disinfection methods before selecting the chlorination and dechlorination disinfection option" (Part 4, Subsection 8 (4)). This requirement is not applicable to existing permits which came into effect before the new regulation. If the inflow into the lagoon system exceeds the currently permitted flow of 3,200 m³/d, the permit can not be amended for the increased flow. Instead, a registration under the new MSR will be required. At that time, the MOE may require alternative means of disinfection to be investigated.

5.7

Septage Receiving Station

Generally, where capacity limitations do not exist at the wastewater treatment facility, co-treatment and disposal of septage with wastewater is one of the most cost-effective and



environmentally sound methods available. Therefore, the conditions present at Fort St. James favours co-treatment of septage with wastewater in the lagoon treatment facility.

Currently, septage is received from one hauler, who discharges the septage into one of the influent manholes upstream of the lagoon facility. This practice results in a temporary reduction in lagoon performance, and a temporary increase in odours. The septage (which is of high biological strength) is discharged very rapidly into the lagoons, causing a sudden increase to the BOD5 loading to the plant. This results in a rapid increase in the oxygen demand in the lagoons. For a limited time, the aeration system temporarily is not able to provide sufficient aeration, and effluent quality deteriorates, until a sufficient quantity of the BOD5 contribution from septage is degraded.

The current septage discharge practice will be improved by the construction of a septage holding tank with sufficient capacity to hold a one to two day volume of septage, equipped with a discharge valve that can be adjusted to allow gradual transfer of septage into the lagoon. Odours will be contained within the enclosed chamber and will be reduced in the lagoon due to the slow release of septage into the system. The slow release will also improve the performance of the lagoons.

The septage holding tank will be approximately 14 m³ capacity (1.5 truckloads) and will be constructed from concrete, with sloped sides to direct the septage to the drain at the bottom of the tank. The tank will be equipped with a hatch and handrails on its roof and a ladder for entry. Septage will be dumped into a chamber upstream of the concrete tank. A concrete asphalt pad with curbs will be provided for the septage truck.

A new 75mm diameter PVC outfall from the tank to cell 1 will be provided, which will have the discharge valve located on its outlet, which is located in a chamber accessible through a hatch. The septic tank is equipped with a gravity overflow pipe, should the discharge valve be closed or fail.



The top of the lagoon berm is the access road for the septage truck. A 1500m lock block wall will be constructed from the septage tank along a portion of the access road. A perforated drain pipe behind the block wall will discharge into cell 3.

5.8 Summary of Recommendations

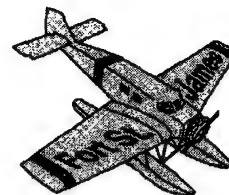
The following upgrades were recommended:

1. Replace blowers.
2. De-sludge cells 1, 2 & 3.
3. Provide fine bubble aeration in cells 1 & 2.
4. Replace coarse bubble aeration in cells 3 and 5 with fine bubble aeration.
5. Construct septage receiving station.





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6.0 PERMITS AND APPROVALS

6.1 Environmental Assessment Report

A copy of the environmental assessment report has been prepared for this project. The assessment concluded that:

"No significant adverse environmental affects associated with the upgrade of the Fort St. James sewage treatment lagoon have been identified. Treatment of sewage during construction may be temporarily diminished but only to a minor degree. A contingent operating plan has been developed to mitigate any decrease in the treatment of sewage during construction. Overall, the upgraded facility, once complete, will improve the treatment of sewage, reduce odours, and improve the quality of discharge to the Necoslie River. See Table 1 on the following page for a complete list of environmental concerns and associated mitigative measures."

6.2 Waste Management Act Permit

A permit under the Waste Management Act (PE-00239) permits discharges of up to 3200 m³/d to and sets the effluent criteria for the discharge.



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The new Municipal Sewage Regulation (MSR), which became effective on July 15, 1999, supercedes the previous permitting system under the Waste Management Act. Existing permits which came into effect before the new regulation remain in effect until the system exceeds its permitted flow. At that time, a registration under the new MSR will be required.

The 20-year maximum day projected flow was estimated to be 3,000 m³/day.

Therefore, a registration under the MSR is not required for this upgrading project.



TABLE 1 – PROPOSED MITIGATION MEASURES

Project Activity	Valued Ecosystem Component	Environmental Concerns	Summary of Effects	Mitigative Measures
Installation of Septage Chamber	Grassed Areas, Necoslie River	Removal of vegetation, Silt Run-off into lagoon and affecting treatment of sewage during construction	Affected vegetation area negligible. Increased TSS entering river if significant runoff from construction into lagoon	Minimize construction footprint for Septage Chamber. Use silt curtains and comply with excavation dewatering procedures as per contract documents
Taking Lagoon Cells off line during construction	Necoslie River	Decreased effluent quality. Increased BOD and TSS loading to the river. Decreased oxygen available for aquaculture	Possible disturbance to fish habitat. Public health concerns with decreased effluent quality	Coordinate work as per contingency plan in Contract Documents. Perform routine dissolved oxygen measurements. Temporarily increase chlorination to provide adequate disinfection of effluent. Perform work during drier periods when incoming flows are lowest
Removal of existing sludge	Ground water	Trace heavy metals	Sludge may contain pathogenic bacteria that can adversely affect human health. Trace metals can seep into groundwater if not properly contained endangering human health	Testing of sludge prior to removal to indicate presence of any trace hazardous materials. Proper disposal of sludge off-site to an appropriate facility.

6.3 Sludge Disposal

The District of Fort St. James and the Bulkley Nechako Regional District have proposed that the sludge removed from the lagoon cells be transported to the landfill site, composted and used as cap material for the existing landfill.

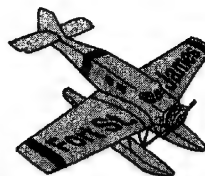
The Organic Matter Recycling Regulation (OMRR) regulates the composting of biosolids and land application of managed organic matter (compost material). However, because the sludge has not undergone a digestion process, it does not meet the OMRR definition for Class B biosolids. Further, this particular application is for a relatively small amount of material, and is for a one-time specific application of biosolids to a landfill. MOE has indicated that they may be willing to issue an Approval for this application, as long as any health or environmental concerns that may arise are mitigated, which will be confirmed through an appropriate sampling regime prior to application to the landfill.

In order to initiate the request for this approval, sampling and testing of the sludge was completed in October, 2005.





NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADING
DESIGN BRIEF**

7.0 COST ESTIMATE

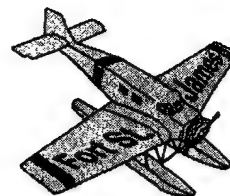
A Class 'A' capital cost estimate is attached in Appendix C and is summarized in Table 7-1 below.

**TABLE 7-1
CAPITAL COST ESTIMATE**

Item	Estimated Cost
1. Replace Blowers	\$111,945
2. Sludge Removal	\$95,000
3. Fine Bubble Aeration System	\$281,000
4. Septage Receiving Station	\$135,000
Sub-total	\$622,945
Contingency @ 10%	\$61,960
GST @ 7%	\$47,710
TOTAL COST	\$732,615



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING DESIGN BRIEF

8.0 SCHEDULE

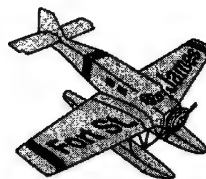
It is proposed that the project be phased. Because the blowers are in need of repair and at risk of failing, it was recommended that they be replaced as soon as possible, and in fact, they were replaced in the summer of 2005. Installation of the aeration system and construction of the septage receiving station can be completed in subsequent phases, or in a single phase. De-sludging of the lagoon cells is scheduled to be completed by District's staff in 2006. The District of Fort St. James and the Nak'azdli Band will coordinate scheduling of these phases according to their capital budgeting process.



Dayton & Knight Ltd.
CONSULTING ENGINEERS



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADING
DESIGN BRIEF**

APPENDIX A

1-Year Sampling Program



Dayton & Knight Ltd.
CONSULTING ENGINEERS
www.dayton-knight.com

612 Clyde Avenue • West Vancouver
British Columbia, Canada V7T 1C9
Telephone: 604-922-3255 • Fax: 604-922-3253
E-mail: dkeng@dayton-knight.com

FAXED

Mr. Joel Barkman, P.Eng.
Carrier Sekani Tribal Council
Technical Services Unit
#200 - 1460 - 6th Ave
Prince George, B.C.
V2L 3N2

June 4, 2003

SB _____
JL _____
JB _____
BH _____

RECEIVED
JUN 6, 2003

Dear Mr. Barkman:

**RE: Nak'Azdi Band/District of Fort St James
Contract No. 403.1
Waste Water Treatment Lagoon Upgrading Study - Winter Sampling**

We enclose the second set of sampling results from the late winter of 2003 for the above facility. These results comprise the influent/effluent concentrations of BOD₅ (filtered and unfiltered), TK Nitrates, Nitrates, and TSS for each cell of the lagoon. As with the previous sampling, these were taken over a four-week period. A tabulation of these samples is also provided as Table 1 and includes a comparison with the 2002 summer values.

**TABLE 1
TABULATION OF SAMPLED 2003 WINTER BOD₅
AND COMPARISON WITH 2002 SUMMER SAMPLED BOD₅**

DESCRIPTION	SAMPLE BOD5 RESULTS					
	2003 WINTER VALUES					2002 SUMMER AVERAGE
	SAMPLE 1	SAMPLE 2	SAMPLE 3	SAMPLE 4	AVERAGE	
AVERAGE INFLUENT FLOW DURING SAMPLING (m ³ /d)	n/a	n/a	n/a	n/a	n/a	930
	BOD ₅ (mg/L)	BOD ₅ (mg/L)	BOD ₅ (mg/L)	BOD ₅ (mg/L)	BOD ₅ (mg/L)	BOD ₅ -(mg/L)
RAW INFLUENT	137	162	137	89	131	108
ANAEROBIC CELL 1 EFFLUENT	92	168	102	93	114	154
ANAEROBIC CELL 2 EFFLUENT	129	209	134	123	149	103
AEROBIC CELL 3 EFFLUENT	18	23	24	19	21	18
FACULTATIVE CELL 4 EFFLUENT	10*	12	18	10*	12.5	12
SETTLING CELL 5 EFFLUENT	10*	10*	10*	10*	10*	11

* Sample results at these points were indicated as being less than 10 mg/L but actual values were not provided

Across anaerobic cell 1, the winter samples varied in terms of change in BOD₅ concentration. Half of the samples indicated a moderate decrease in BOD₅ across the cell and the remaining half indicated a slight increase. Across anaerobic cell 2, all of the samples then exhibited a significant increase in BOD₅ (with a maximum BOD₅ concentration of 209 mg/L measured in the anaerobic cell 2 effluent). These trends are opposite to those exhibited by the summer samples which included a significant increase in BOD₅ levels across the anaerobic cell 1 and decrease across the anaerobic cell 2. The negligible increase / decrease in BOD₅ loading across anaerobic cell 1 may be attributed to fewer septage loads typical for the winter months. The reason for the increase in BOD₅ across anaerobic cell 2 is not readily apparent. The installation of the septage receiving chamber and equalization of the septage flow into the lagoon should help eliminate any significant increase in BOD₅ concentrations across the anaerobic cells.

In winter, the rate of decrease in BOD₅ levels for the aerated and settling cells is consistent with that found for the summer values and as predicted by Dayton & Knight Ltd's previous calculations.

The average winter sampled BOD₅ influent concentration entering the lagoon of 131 mg/L is somewhat higher than the summer average of 108 mg/L. This increase could be due to the reduced infiltration typically associated with winter months, resulting in higher influent concentrations. Dayton & Knight Ltd. is awaiting the latest lagoon flow records from the District of Fort St James for the 2003 winter sampling period to verify the extent of infiltration present in the sampled results. All of the sampled influent BOD₅ values to date are lower than the study predicted value of 250 mg/L based on empirical per capita loading.

The maximum permitted discharge level for both BOD₅ and TSS as spelled out by the Waste Management Act Permit (PE-00239) is 30 mg/L. All of the lagoon sampled effluent values to date for BOD₅ and TSS have been in compliance with this limit. The maximum sampled plant effluent BOD₅ level was 15 mg/L and the maximum sampled plant effluent TSS level was 28 mg/L. Based on the sampled data, the existing lagoon infrastructure is just performing adequately for current influent conditions.

The original Fort St. James Lagoon Upgrade Study of June, 2000 recommended the implementation of "Alternative 4". To recap, this alternative entails the addition of fine bubble aeration to both of the anaerobic cells as well as replacing the existing coarse bubble diffusers in Cells 3 and 5 with fine bubble aeration. The recommendation of Alternative 4 was made with the provision that sampling of the existing lagoon influent be performed to validate the design BOD₅ influent concentrations and associated lagoon flow rates used as the basis of Alternative 4. Table 2 summarizes the original design data from the June, 2000 study and predicted treatment performance based on implementing "Alternative 4".

TABLE 2
TREATMENT ANALYSIS FOR "ALTERNATIVE 4"
THEORETICAL EFFLUENT CONCENTRATIONS

	PRESENT SEWERED POPULATION (3,870)		20 YEAR SEWERED POPULATION (5,000)	
	BOD ₅ Conc (mg/L) [Winter Avg Daily Flow of 1285 m ³ /d]	BOD ₅ Conc (mg/L) [Spring Peak Month Flow of 2,700 m ³ /d]	BOD ₅ Conc (mg/L) [Winter Avg Daily Flow of 1800 m ³ /d]	BOD ₅ Conc (mg/L) [Spring Peak Month Flow of 3,000 m ³ /d]
Raw Influent	250	120	230	140
Future Aerated Cell 1 Effluent (currently anaerobic)	168	89	167	107
Future Aerated Cell 2 Effluent (currently anaerobic)	116	66	124	81
Aerated Cell 3 Effluent (fine bubble addition)	29	18	38	24
Facultative Cell 4 Effluent	4*	2*	6*	8*
Settling Cell 5 Effluent (fine bubble addition)	2*	2*	4.5*	5*

The 2003 winter samples indicated a maximum influent BOD₅ concentration of 162 mg/L for an estimated daily lagoon flow of 1,300 m³/d¹ which is lower than the previously assumed Winter "dry" day design value of 250 mg/L listed in Table 2. Once completed, 2003 Spring sampling should provide a good indication of "wet" day peak flow BOD₅ concentrations as this is typically the season of highest runoff and infiltration into the sewer system. For the design Spring peak month flow of 2,700 m³/d listed in Table 2 under "Present Sewered Population", the actual influent BOD₅ concentration would be anticipated to be lower than the estimated design value of 120 mg/L provided. This is based on the low peak concentrations measured during the "dry" Winter period and proportional dilution of influent during peak "wet" flows.

In light of these results, the implementation of "Alternative 4" will have ample capacity for current influent conditions. With respect to future influent conditions, the "20 year Sewered Population (5000)" data provided in Table 2 are also conservative based on the current sampled influent BOD₅ concentrations. Given that the sampling to date is based on a limited number of samples, and to

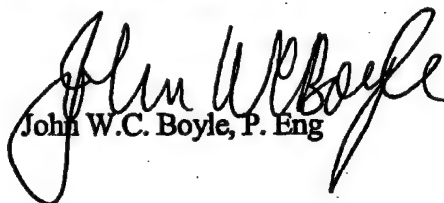
¹ As no record of plant effluent flow rates for the 2003 Winter sampling period was available at the time of this letter, the historical average month day flow for March has been assumed.

provide an adequate factor of safety for future design criteria, we recommend adoption of Table 2 data for design.

Dayton & Knight Ltd. is currently obtaining quotations for the aeration equipment. The study suggested a two stage approach to implementation of the aeration upgrade. The first stage will involve adding aeration equipment to the two anaerobic cells while maintaining the existing coarse bubble diffusers in Cells 3 and 5. The second stage will see the existing coarse bubble diffusers replaced with fine bubble aeration in Cells 3 and 5.

Yours truly,

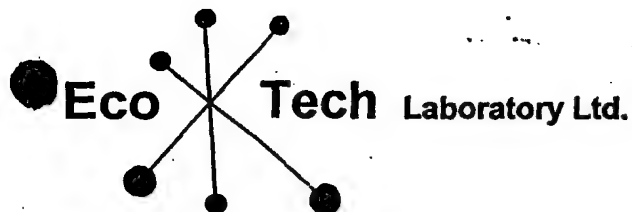
Dayton & Knight Ltd.


John W.C. Boyle, P. Eng

BH/ad
403.1
Encls.

FAXED

cc: Mr. Dan Zabinski, District of Fort St. James
Mr. Lars Sabbe, District of Fort St. James



ASSAYING
GEOCHEMISTRY
ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 Dallas Drive, Kamloops, BC V2C 6T4

Phone (250) 573-5700 Fax (250) 573-4557

E-mail: info@ecotechlab.com

www.ecotechlab.com

ANALYTICAL RESULTS - E0491

DAYTON & KNIGHT LTD.
612 Clyde Avenue
West Vancouver, BC
V7T 1C9

10-Apr-03

Attention: Ho-ping Wei

SAMPLE IDENTIFICATION:

6 Water Samples Received: March 28, 2003

Samples Dated: March 27, 2003

Labelled: 1. ICS #1

2. ICS #2

3. ICS #3

4. ICS #4


5. FMS #5

6. EDS #6

PARAMETERS	#1	#2	#3	#4	#5	#6
TKN (as N)	18.0	18.4	18.6	21.6	21.8	20.3
B.O.D.5 (filtered)	57	72	70	<10	<10	<10
B.O.D.5	89	93	123	19	<10	<10
Total Suspended Solids	42	31	92	17	6	5
Nitrate (as N)	<0.003	<0.003	<0.003	0.035	0.156	0.154

NOTE: Results expressed in mg/L

TF/ejd
Fax: 604-922-3253


ECO TECH LABORATORY LTD.
Tom Fletcher, BSc.
Environmental Lab Manager

Methods used are based upon those found in "Standard Methods for the Examination of Water and Wastewater" 19th Edition, published by the American Public Health Association, or on US EPA methods from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW846) third Edition. Any other procedures are based on methods accepted by the B.C. Ministry of Environment.

1. QC SOLUTION RUNS:

Parameter	Method	Expected (mg/L)	Observed (mg/L)	%Deviation
BOD5	5 days @ 20C Nitrification inhibitor	200	206	3

2. DUPLICATE RUNS:

Parameter	Method	Sample ID	Run 1 (mg/L)	Run 2 (mg/L)	Deviation
Chloride	Titration				
Nitrate	Technicon				
Nitrite	Technicon				
TKN	Technicon				
Ammonia	Technicon				
Phosphate	Technicon				

3. Blank Runs:

All blanks for each parameter were found to be less than its detection limit.

NOTE:

The control criteria for reagent blank are that the observed value for each analyte to be determined is less than its detection limit. If this is not achieved during analysis, the process will be terminated and will not be continued until the problem is solved.

End of Report



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ENVIRONMENTAL TESTING

10041 Dallas Drive, Kamloops, BC V2C 6T4
Phone (250) 573-5700 Fax (250) 573-4557
E-mail: ecotech@direct.ca
www.ecotechlab.com

ANALYTICAL RESULTS - E0435

DAYTON & KNIGHT LTD.
612 Clyde Avenue
West Vancouver, BC
V7T 1C9

1-Apr-03

Attention: Ho-ping Wei

SAMPLE IDENTIFICATION:

6 Water Samples Received: March 20, 2003

Samples Dated: March 19, 2003

Labelled: 1. ICS #1

2. ICS #2

3. ICS #3

4. ICS #4

5. FMC #5

6. EDS #6

PARAMETERS	#1	#2	#3	#4	#5	#6
TKN (as N)	23.9	29.8	30.2	24.5	20.5	21.2
B.O.D.5 (filtered)	100	90	59	12	18	<10
B.O.D.5	137	102	134	24	18	<10
Total Suspended Solids	67	20	182	24	10	9
Nitrate (as N)	0.009	<0.003	<0.003	<0.003	0.185	0.202

NOTE: Results expressed in mg/L

TF/ejd
Fax: 604-922-3253


ECO TECH LABORATORY LTD.

Tom Fletcher, BSc.
Environmental Lab Manager

DAYTON & KNIGHT LTD.
Results Continued

April 1, 2003
Et.No. E0435

QUALITY CONTROL DATA

Methods used are based upon those found in "Standard Methods for the Examination of Water and Wastewater" 19th Edition, published by the American Public Health Association, or on US EPA methods from "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW846) third Edition. Any other procedures are based on methods accepted by the B.C. Ministry of Environment.

1. QC SOLUTION RUNS:

Parameter	Method	Expected (mg/L)	Observed (mg/L)	%Deviation

2. DUPLICATE RUNS:

Parameter	Method	Sample ID	Run 1 (mg/L)	Run 2 (mg/L)	Deviation
Suspended Solids	Gravimetric	6	9	9	0

3. Blank Runs:

All blanks for each parameter were found to be less than its detection limit.

NOTE:

The control criteria for reagent blank are that the observed value for each analyte to be determined is less than its detection limit. If this is not achieved during analysis, the process will be terminated and will not be continued until the problem is solved.

End of Report



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Phone (250) 573-5700 Fax (250) 573-4557
E-mail: ecotech@direct.ca
www.ecotechlab.com

ANALYTICAL RESULTS - E0383

DAYTON & KNIGHT LTD.
612 Clyde Avenue
West Vancouver, BC
V7T 1C9

24-Mar-03

Attention: Ho-plng Wei

SAMPLE IDENTIFICATION:

6 Water Samples Received: March 12, 2003

Samples Dated: March 11, 2003

Labelled: 1. ICS #1

2. ICS #2

3. ICS #3

4. ICS #4


5. Flowmeter

6. Effluent

PARAMETERS	#1	#2	#3	#4	#5	#6
TKN (as N)	27.2	25.8	27.8	24.7	23.4	21.5
B.O.D.5 (filtered)	116	131	118	11	<10	<10
B.O.D.5	162	168	209	23	12	<10
Total Suspended Solids	36	32	147	20	6	7
Nitrate (as N)	<0.003	<0.003	<0.003	<0.003	0.225	0.383

NOTE: Results expressed in mg/L

TF/ejd
Fax: 604-922-3253


ECO TECH LABORATORY LTD.
Tom Fletcher, BSc.
Environmental Lab Manager



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ANALYTICAL CHEMISTRY
ENVIRONMENTAL TESTING

10041 Dallas Drive, Kamloops, BC V2C 6T4
Phone (250) 673-5700 Fax (250) 673-4557
E-mail: ecotech@direct.ca
www.ecotechlab.com

Released under the Access
to Information Act
Communiqué en vertu de la
Loi sur l'accès à
l'information

ANALYTICAL RESULTS - E0328

DAYTON & KNIGHT LTD.
612 Clyde Avenue
West Vancouver, BC
V7T 1C9

24-Mar-03

Attention: Ho-ping Wei

*DP (1) BT - pls call them
and ask them to
address future*

SAMPLE IDENTIFICATION:

6 Water Samples Received: March 5, 2003

Samples Dated: March 4, 2003

Labelled: 1. ICS #1

2. ICS #2

3. ICS #3

4. ICS #4

5. FMC #5

6. EDS #6

*203
File 4031*

PARAMETERS	#1	#2	#3	#4	#5	#6
TKN (as N)	24.7	25.2	42.9	23.8	19.3	20.7
B.O.D.5 (filtered)	105	74	56	<10	<10	<10
B.O.D.5	137	92	129	18	<10	<10
Total Suspended Solids	58	15	157	21	9	18
Nitrate (as N)	<0.003	<0.003	<0.003	<0.003	0.267	0.315

NOTE: Results expressed in mg/L

ECO TECH LABORATORY LTD.

Tom Fletcher, BSc.

Environmental Lab Manager

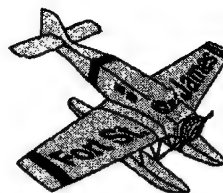
TF/ejd

Fax: 604-922-3253

APPENDIX B



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADING
DESIGN BRIEF**

APPENDIX B

Permit

**BC
Environment**

**Province of
British Columbia**

MINISTRY OF
ENVIRONMENT,
LANDS AND PARKS

Environmental Protection
1011 4th Avenue
Prince George, British Columbia
V2L 3H9
Telephone: (604) 565-6155
Fax: (604) 565-6629

REGISTERED MAIL

Date: **MAR 29 1995**

File: PE-00239

District of Fort St. James
P.O. Box 640
Fort St. James, British Columbia
VOJ 1P0

Attention: Mr. Lars Sabbe - Superintendent

Dear Permittee:

Enclosed is a copy of Permit No. PE-00239 issued under the provisions of the Waste Management Act. Your attention is respectfully directed to the terms and conditions outlined in the Permit.

This Permit does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority shall rest with the Permittee.

The Permittee shall ensure that any discharge under this Permit meets the requirements of other regulatory agencies including, but not restricted to, Environment Canada and the Department of Fisheries and Oceans (Canada).

An annual permit fee will be determined according to the Waste Management Permit Fees Regulation.

The administration of this Permit will be carried out by staff from our Regional Office located in Prince George, (telephone 565-6453). Plans, data and reports pertinent to the Permit are to be submitted to the Environmental Protection office, 3rd Floor, 1011 Fourth Avenue, Prince George, British Columbia, V2L 3H9

OF
APR 03 1995
FIVE
FORT ST. JAMES



MINISTRY OF ENVIRONMENT,
LANDS AND PARKS

PERMIT
PE-0239

Under the Provisions of the Waste Management Act

District of Fort St. James

P.O. Box 640

Fort St. James, British Columbia

VOJ 1P0

is authorized to discharge effluent to the Necoslie River from a sewage treatment lagoon system located 0.6 km along the Necoslie Road on the south side of Fort St. James, British Columbia, subject to the conditions listed below. Contravention of any of these conditions is a violation of the Waste Management Act and may result in prosecution.

This permit revokes and replaces all previously issued permits under the number PE-0239 issued under Part 2, Section 8 of the Waste Management Act.

1. AUTHORIZED DISCHARGES

1.1 This subsection applies to the discharge of treated effluent from a series of treatment lagoons into the Necoslie River. The site reference number for this discharge is E104751.

1.1.1 The allowable authorized rate of raw sewage discharge to the treatment works is a maximum of 3200 m³ per day.

1.1.2 The characteristics of the discharge shall not exceed:

a) 5- day Biochemical Oxygen Demand,	30 mg/L
b) Total suspended Solids,	30 Mg/L

1.1.3 The authorized works are a control building, two anaerobic cells, mechanically aerated lagoon, stabilization/storage lagoon, chlorination chamber, an aerated dechlorination/polishing cell, a discharge structure to the Necoslie River and related appurtenances approximately located as shown on attached Site Plan A.

B.W. Medlar
Assistant Regional Waste Manager

Date issued: July 19, 1968

Date Amended: MAR 29 1995

(most recent)

Page: 1 of 5

PERMIT : PE-0239

- 1.1.4 The location of the facilities from which the discharge originates is within the Necoslie Indian Reserve No. 1 approximately 300 metres northeast of the northwest corner of District Lot 1631, Range 5, Coast Land District.
- 1.1.5 The location of the point of discharge is located as above with the discharge entering the Necoslie River.

2. GENERAL REQUIREMENTS

2.1 Maintenance of Works and Emergency Procedures

The Permittee shall inspect the pollution control works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents continuing operation of the approved method of pollution control, the Permittee shall immediately notify the Regional Waste Manager and take appropriate remedial action.

2.2 Bypasses

The discharge of effluent which has bypassed the designated treatment works is prohibited unless the consent of the Regional Waste Manager is obtained and confirmed in writing.

2.3 Modification to Process and/or Authorized Works

The Permittee shall notify the Regional Waste Manager prior to implementing changes to any process and/or authorized works that may affect the quality and/or quantity of the discharge.

2.4 Upgrading of Authorized Works

The Regional Waste Manager may require upgrading of the authorized works if, based on data and information received, it becomes apparent that such improvements are necessary to protect the environment.

2.5 Chlorination

Maintain a chlorination residual prior to dechlorination between 0.5 and 1.0 mg/L at all times, or as otherwise ordered by the Regional Waste Manager, and provide not less than one hour of contact time at average flow rates.



B.W. Medlar
Assistant Regional Waste Manager

Date Issued: July 19, 1968

Date Amended:
(most recent)

MAR 29 1995

Page: 2 of 5

PERMIT : PE-0239

2.6 Dechlorination

The effluent shall be dechlorinated prior to discharge to the Necoslie River to reduce the chlorine to below the detectable limits.

2.7 Lagoon Freeboard

A minimum level of one metre freeboard shall be maintained in the lagoons to prevent overflow from the treatment works to the receiving environment. Freeboard is defined as the difference in elevation between the contained liquid level and the top of the berm structure at its lowest point.

2.8 Fencing and Posting of the Lagoons

The treatment works shall be fenced to the satisfaction of the Regional Waste Manager to prevent accidental trespass into the area of the lagoons. The Permittee shall erect signs along the perimeter of the lagoons. The signs shall identify the nature of the works.

2.9 Posting of Cautionary Signs at Outfall

A cautionary sign shall be erected along the alignment of the outfall above high water mark on the Necoslie River. The sign shall identify the nature of the works. The wording and the size of the sign requires the consent of the Regional Waste Manager.

2.10 Sludge Wasting and Disposal

Sludge wasted from the treatment works shall be disposed of to a site and in a manner authorized by the Regional Manager.

2.11 Facility Classification

Facility classification shall be maintained with the British Columbia Water and Wastewater Operators Certification Program Society (BCWWOCPS). The wastewater treatment system authorized in Section 1.1.3 has been classified as Level 1 by the British Columbia Water and Wastewater Operators Certification Program Society. The classification certificate shall be renewed annually and a reclassification review of each facility shall be conducted at least once every five (5) years.

Certification of operators is not required for facilities classified as Level 1.



B.W. Medlar
Assistant Regional Waste Manager

Date Issued: July 19, 1968

Date Amended: MAR 29 1995

(most recent)

Page: 3 of 5

PERMIT : PE-0239

3. MONITORING AND REPORTING REQUIREMENTS

3.1 Grab Sampling

The Permittee shall install a suitable sampling facility and obtain a grab sample of the effluent from the treatment works at the point of discharge once each month. Proper care should be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

Sampling of effluent is to be carried out in accordance with procedures described in the most current edition of "Field Criteria for Sampling Effluent and Receiving Water" (April 1989, or most recent update), or by suitable alternative procedures as authorized by the Regional Waste Manager.

3.2 Analysis

Obtain analyses of the sample for the following:

- | | |
|-------------------------------------|-------------------------------------|
| a) 5-day Biochemical Oxygen Demand, | mg/L |
| b) Total Suspended Solids, | mg/L |
| c) Faecal Coliform Organisms, | MPN per 100 mL or
CFU per 100 mL |

Analyses are to be carried out in accordance with procedures described in the latest version of "BRITISH COLUMBIA ENVIRONMENTAL LABORATORY MANUAL for the Analysis of Water, Wastewater, Sediment and Biological Materials, March 1994 Permittee Edition", or by suitable alternative procedures as authorized by the Regional Waste Manager.

A copy of the above manual may be purchased from the Queen's Printer Publication Centre, 2nd Floor, 563 Superior Street, Victoria, British Columbia, V8V 4R6, (1-800-663-6105). The manual is also available for review at any Environmental Protection Program Office.

3.3 Flow Measurement

Provide and maintain some means, satisfactory to the Regional Waste Manager, for measuring or estimating the quantity of raw sewage discharged to the treatment works once per week over a 24-hour period. Record the quantity and have the data available for inspection.


Date Issued: July 19, 1968

Date Amended:

(most recent)

Page: 4 of 5

MAR 29 1995



B.W. Medlar
Assistant Regional Waste Manager

PERMIT : PE-0239

PROVINCE OF
BRITISH COLUMBIA

Environmental Protection

3.4 Reporting

Maintain data of analyses and flow measurements for inspection and submit the data, suitably tabulated, to the Regional Waste Manager. All reports shall be submitted within 30 days of the month end during which the monitoring program was carried out. Also submit, by January 31 of each year, an annual summary for the previous twelve month period and relate any proposed variations to the operation for the forthcoming year.

The need for subsequent increased or decreased monitoring will be assessed on the basis of the monitoring data submitted and any other data gathered by the Environmental Protection staff in connection with this discharge.

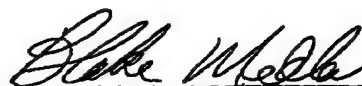
Date Issued: July 19, 1968

Date Amended:

(most recent)

Page: 5 of 5

MAR 29 1995



B.W. Medlar
Assistant Regional Waste Manager

PERMIT : PE-0239

- 2 -

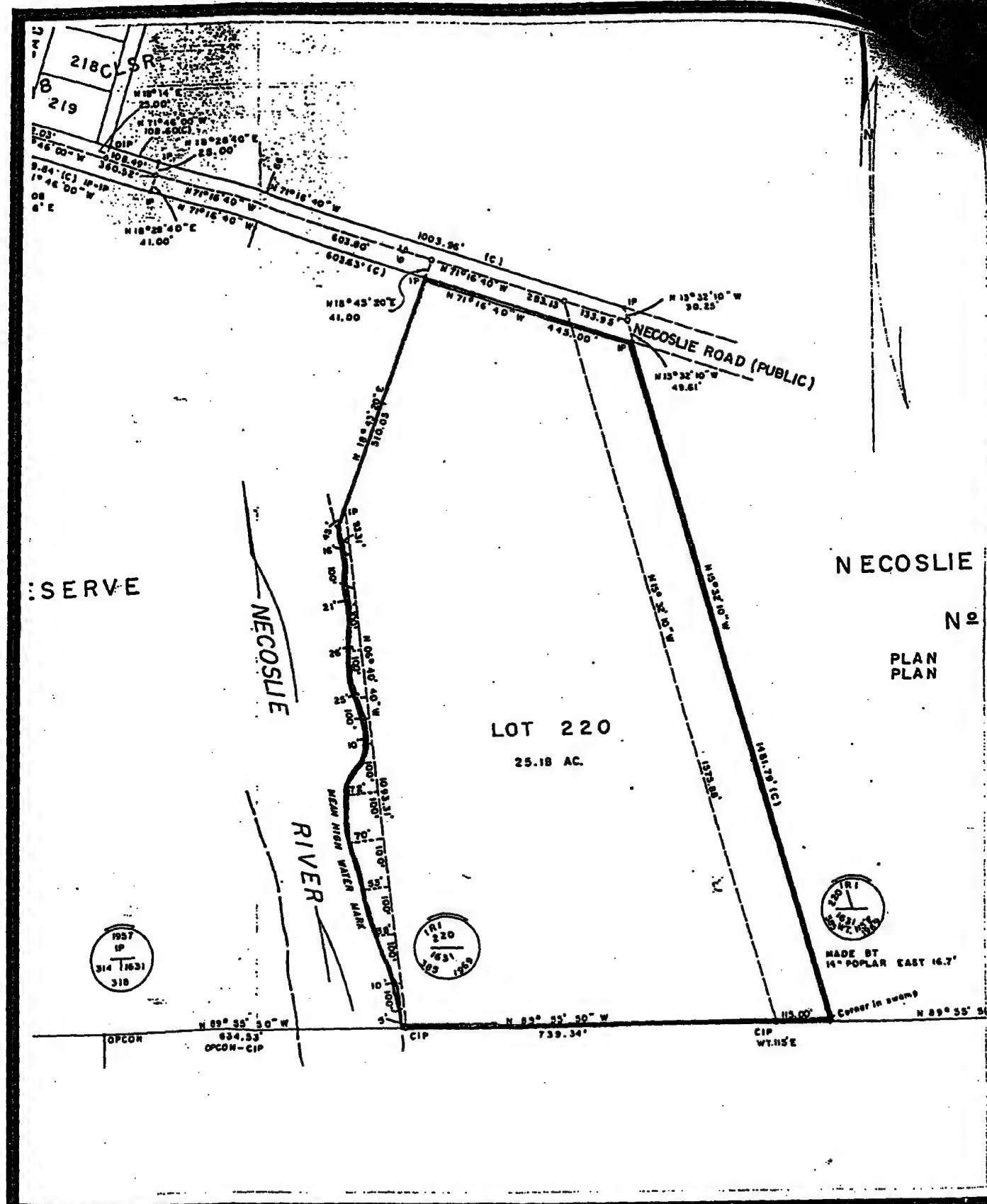
This decision may be appealed in accordance with Section 27 of the Waste Management Act by giving written notice to me within 21 days of this notification.

Yours truly,



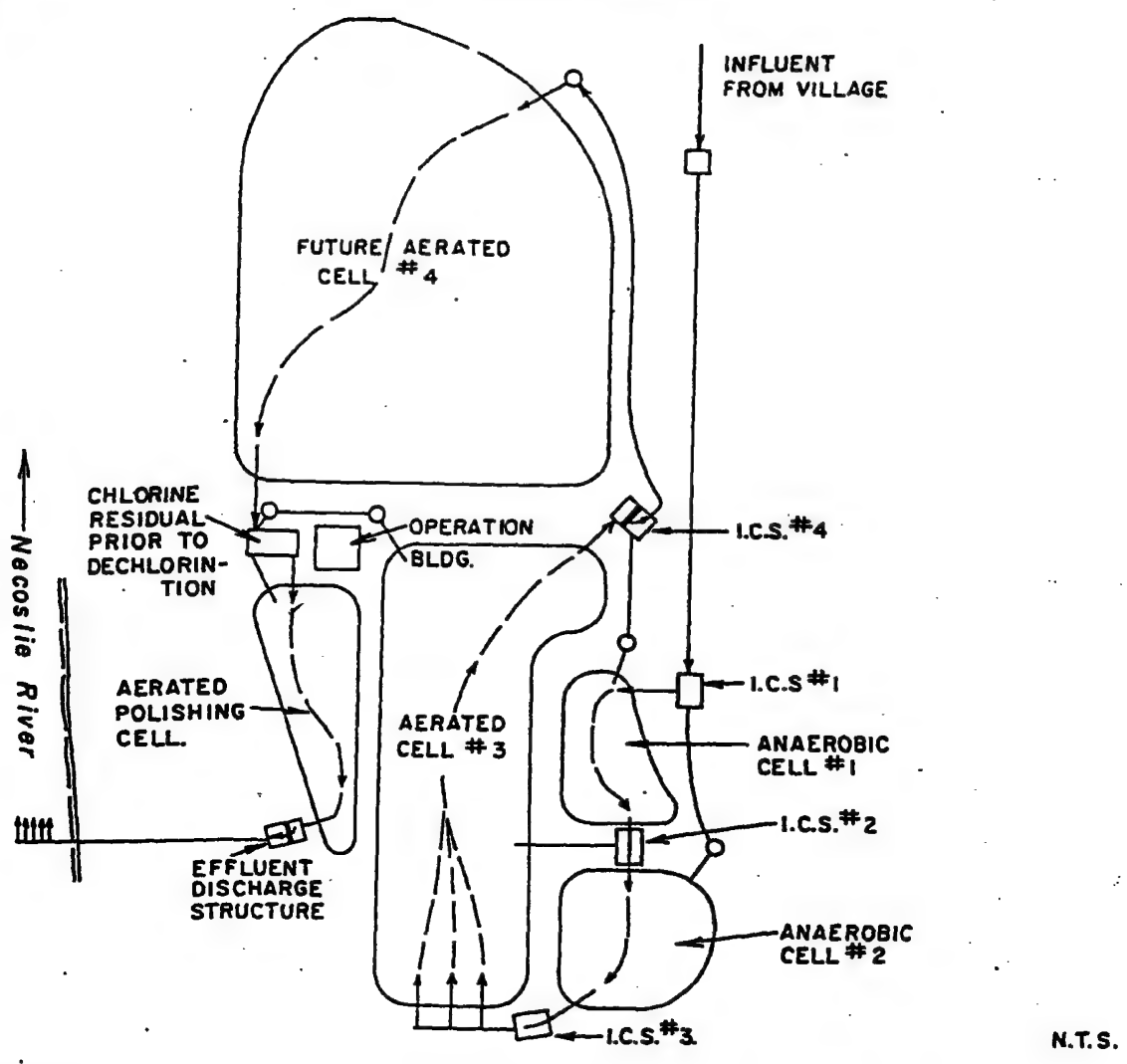
B.W. Medlar
Asst. Regional Waste Manager
Northern Interior Region

cc: Regional District of Bulkley Nechako
P.O. Box 820
Burns Lake, B.C. V0J 1E0



LAND MAP

SITE PLAN A

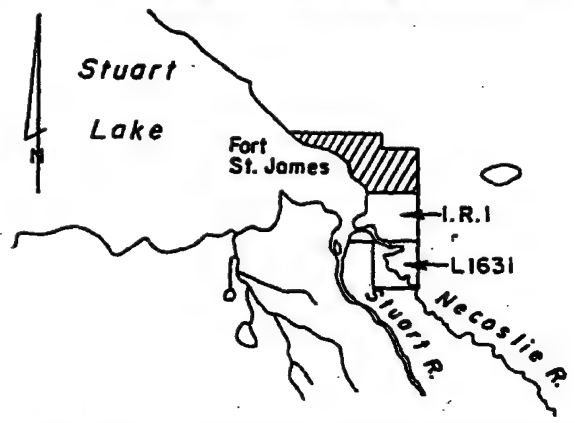


LEGAL LAND DESCRIPTION

Within Necoslie Indian Reserve No. 1 approximately 300 metres northeast of NW corner of District Lot 1631, Range 5, Coast Land District.

PE-0239 (Permit or Approval No.)	Site Plan A (Appendix No.)
District of Fort St. James	
P.O. Box 640, Fort St. James, British Columbia	
VOJ 1P0 (Name of Applicant or Permittee)	
July 19, 1968 (Date Issued)	MAR 29 1995 (Date Amended)
 B.W. Medlar Asst. Regional Waste Manager	

GENERAL DESCRIPTION OR LOCATION MAP





NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADING
DESIGN BRIEF**

APPENDIX C
Capital Cost Estimate



CONSTRUCTION COST ESTIMATE

DISTRICT OF FORT ST. JAMES/NAK'AZDLI BAND
UPGRADE OF THE EXISTING SEWAGE LAGOON
PROJECT NO. 403.1
DATE: FEBRUARY 6, 2006

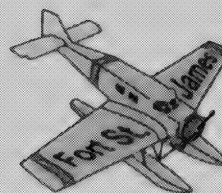
DESCRIPTION	UNIT	RATE	QTY	TOTAL
1. REPLACE BLOWERS				
Supply and deliver blowers c/w enclosure	lump sum	\$ 41,100.00	1	\$41,100
Install blowers	lump sum	\$ 20,000.00	1	\$20,000
Supply and install ventilation and ducting	lump sum	\$ 7,500.00	1	\$7,500
Supply and install miscellaneous piping	lump sum	\$ 5,000.00	1	\$5,000
Supply and install 2 - 100 Amp breakers, wiring, conductors, and instrumentation; relocate existing conduit	lump sum	\$ 25,000.00	1	\$25,000
Supply and install 2 - 40 hp VFD's	lump sum	\$ 10,000.00	1	\$10,000
Sub-total				\$108,600
Contingency @ 10%				\$10,860
Total Before Taxes				\$119,460
GST				\$8,362
PST on 40% of Total				\$3,345
TOTAL				\$131,167
2. SLUDGE REMOVAL				
Sludge Analysis	lump sum	\$ 5,000	1	\$5,000
Sludge Withdrawal (personnel, hauling and disposal)	each	\$ 15,000	3	\$45,000
Develop compost site at landfill	lump sum	\$ 25,000	1	\$25,000
Operation of compost site	lump sum	\$ 15,000	1	\$15,000
Final application of sludge to landfill	lump sum	\$ 5,000	1	\$5,000
Sub-total				\$95,000
Contingency @ 10%				\$9,500
Total Before Taxes				\$104,500
GST				\$7,315
TOTAL				\$111,815
3. FINE BUBBLE AERATION SYSTEM				
Mobilization/Demobilization	lump sum	\$ 40,000	1	\$40,000
Supply & install steel air header pipe	lump sum	\$ 85,000	1	\$85,000
Supply fine bubble diffusers, valves and piping for Cell 1 and 2	lump sum	\$ 40,000	1	\$40,000
Supply fine bubble diffusers, valves and piping for Cell 3	lump sum	\$ 46,000	1	\$46,000
Install Diffusers and Piping - Cell 1 and 2	lump sum	\$ 35,000	1	\$35,000
Install Diffusers and Piping - Cell 3 and 5	lump sum	\$ 35,000	1	\$35,000
Sub-total				\$281,000
Contingency @ 10%				\$28,100
Total Before Taxes				\$309,100
GST				\$21,637
TOTAL				\$330,737
SEPTAGE RECEIVING CHAMBER				
Mobilization/Demobilization		\$ 10,000	1	\$10,000
Construct Septage Receiving Chamber	lump sum	\$ 85,000	1	\$85,000
Vehicle Access Road	lump sum	\$ 15,000	1	\$15,000
Lock-Block™ Retaining Wall	lump sum	\$ 25,000	1	\$25,000
Sub-total				\$135,000
Contingency @ 10%				\$13,500
Total Before Taxes				\$148,500
GST				\$10,395
TOTAL				\$158,895
Total All Phases				\$732,614



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NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING

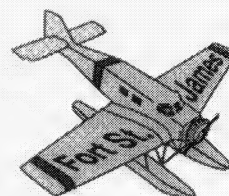
DESIGN BRIEF

FEBRUARY 2006

**DAYTON & KNIGHT LTD.
Consulting Engineers**



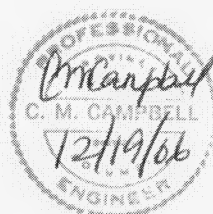
NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE LAGOON EMERGENCY RESPONSE PLAN

FEBRUARY 2006



DAYTON & KNIGHT LTD.
Consulting Engineers

LIMITATIONS AND DISCLOSURE

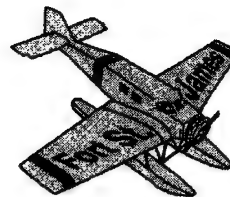
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NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

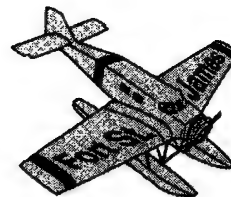
**SEWAGE LAGOON
EMERGENCY RESPONSE PLAN**

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B	MSDS DOCUMENTS
C	EMERGENCY REPORT FORM



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE LAGOON EMERGENCY RESPONSE PLAN

1.0 INTRODUCTION

The District of Fort St. James operates a lagoon facility for the treatment of domestic sewage from the community of Fort St. James and the Nak'azdli Band. The lagoon is located on Necoslie IR1, on land leased by the District of Fort St. James, who operate the lagoon through an MTSA (Municipal Type Servicing Agreement) with the Nak'azdli Band.

The purpose of this Emergency Response Plan is to ensure the safety of the public in case of any kind of emergency related to the sewage lagoon. The ability to respond quickly and correctly in an emergency will protect the public. Emergencies that will require notices to the public or to government agencies, or which will require assistance and advice from resources outside of the community are identified, so time is not wasted when an emergency happens.

The following is included in this plan:

- Description of the facility;
- Communications and Resources (List of contacts);
- Common types of emergencies and how to respond to those emergencies;
- Training and prevention.

2.0 DEFINITIONS

- a) **EMERGENCY:** a situation which could pose a health risk to the community, or cause the sewage lagoon to not function properly.
- b) **SPILL:** accidental or unexpected release of any material from a container.
- c) **SMALL SPILL:** defined in general literature as spills less than or equal to 500 millilitres. In case of extremely hazardous substances, spills less than 500 millilitres are considered major spills.
- d) **MAJOR SPILLS:** defined in general literature as spills greater than 500 millilitres.
- e) **LEAK:** release of material from a container or pipe through a small opening or gap, generally handled as a small spill.
- f) **HAZARDOUS CHEMICAL:** substance or material determined to be capable of posing an unreasonable risk to health, safety and property.
- g) **EMERGENCY OFFICER:** the person in charge to manage and provide assistance during an emergency such as fire, hazardous waste spill, earthquake or flood (usually the local Fire Chief or Environmental Protection Officer).

3.0 COMMUNICATIONS AND RESOURCES

A list of all people and agencies that should be contacted in case of any emergency, as well as a list of local resources that may be able to help or respond to an emergency, is attached to this document. This list should be update periodically. Generally the list includes the system's owners and operators, repair services, media representatives, and government agencies.

In case of an emergency, the Emergency Officer should always be notified.

A copy of this list should be placed on the wall of the lagoon operations building and at the District and Band offices, and should be distributed to all operators and senior District and Band staff.

The District and the Nak'azdli Band each should also develop their own Communications Plan. If the emergency warrants it, the Communications Plan should be activated. The Communications Plan should include the following components:

Public Notices: Distribution of a flyer is a good way to notify the public of an emergency. Some suggestions for the flyer include:

- use bright-coloured paper to ensure that it is visible;
- using a large font to ensure that the message can be read by everybody;
- Post or tape the flyer to the house.

Phone Trees: A "phone tree" is a pre-arranged plan that allows every household in the community to be contacted with an important message by their neighbours, by telephone. People who are phoned have the names of other people to phone, who have the names of other people to phone, and so on until everyone on the tree has been alerted.

Media: Local media, including radio, television, and newspaper can also be used to notify warn community members of an emergency if necessary. Local media should be contacted as part of emergency planning to establish procedures ahead of time.

4.0 FACILITY DESCRIPTION

4.1 Description

Sewage enters the Fort St. James sewage treatment lagoon facility through a 300mm diameter sewer, which discharges into a series of five lagoon cells. The normal process



stream flows sequentially from cell 1 to cell 5 before final discharge into the Necoslie River. Presently, cells 3, 4 and 5 are aerated with coarse bubble diffusers. The lagoon will be upgraded in the near future, after which time, cells 1, 2, 3 and 5 will all be aerated with fine bubble aerators. The five coarse bubble aerators in cell 4 will continue to be used.

Wastewater flows from cell 4 into a chlorination-dechlorination contact chamber, and passes through a flowmeter, which records the plant flows on a chart recorder, before discharge into cell 5. Dechlorination is not currently practiced, since the long retention and aeration provided in cell 5 has been sufficient to remove any trace of chlorine in the effluent. The chlorination system uses chlorine gas, and the dechlorination system uses sodium sulphite solution.

The lagoon cells are interconnected to each other using a system of pipes, manholes and intercell control structures. This enables changes to the flow configuration to be made for the purpose of isolating a lagoon cell for service or repair.

Aeration air is provided by two 40 hp Aerzen positive displacement blowers. Typically, only one unit operates, with the second acting as a backup or for unusually high flows. Air is distributed to the lagoons by a system of submerged air piping.

The plant effluent discharges from cell 5 into an outfall sewer that discharges into the Necoslie River. The outfall is provided with a diffuser to distribute the effluent across the width of the river.

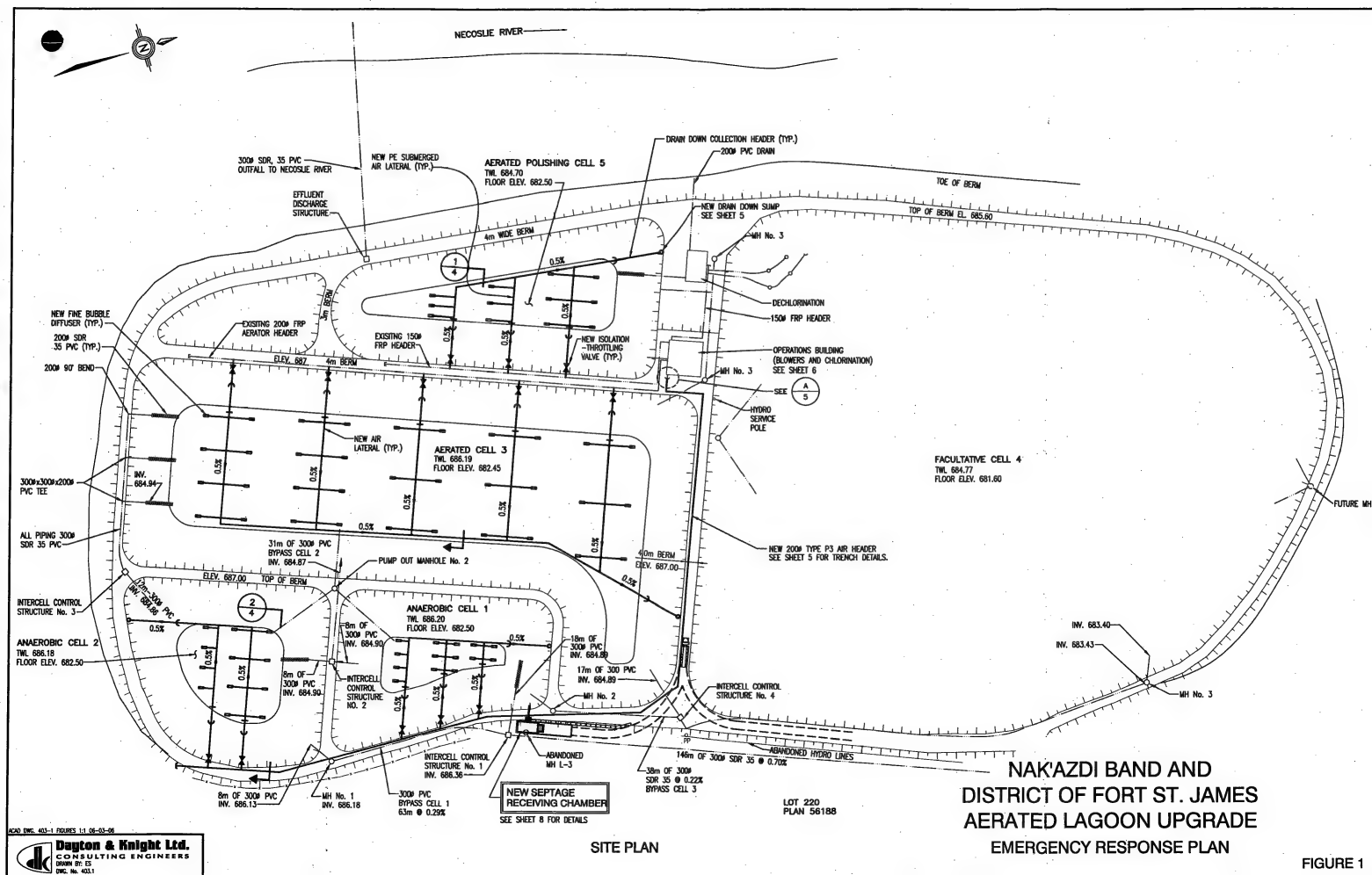
A plan of the lagoon system is attached in Figure 1.

4.2 Permit Effluent Criteria

The Waste Management Act Permit (PE-00239) sets the effluent criteria as follows:

- 5 Day Biochemical Demand (BOD₅) 30 mg/L





- Total Suspended Solids (TSS) 30 mg/L
- Maximum Rate of Sewage Discharge 3200 m³/d

4.3 Chemicals Used

The wastewater treatment system utilizes chlorine gas for disinfection and sodium sulfite for de-chlorination.

Chlorine is delivered in 45 kg (100 lb) cylinders. Typically, two cylinders will be in use, and there is room for storage of two additional cylinders.

The chemical solution tank for sodium sulfate is 380 liters (85 gallons) in volume. Typically, sodium sulfite is sold in 22.7 kg bags. A 3-month supply is 7 bags.

5.0 POTENTIAL EMERGENCY SITUATIONS

The lagoon is generally oversized for the present population and is treating well within it permit effluent criteria. The following is a list of potential emergency situations that may occur and the emergency response:

5.1 Berm Failure and Sewage Spill to Surrounding Land or the Necoslie River

Immediate Actions:

If a berm fails, the affected cell should be taken out of service until the berm can be repaired.

- Notify Emergency Officer
- Isolate affected cell by closing appropriate inter-cell control structures.
- Notify MOE and FISHERIES AND OCEANS CANADA.
- Engage engineer to inspect and make recommendations for repair.



5.2 Power Failure

In a power failure, the aeration system will not function, but sewage will still continue to move through the lagoon system and undergo some treatment. It is unlikely that a power failure will be long enough to impact the treatment to a degree that the permit will be violated. However, if it is anticipated that the power failure may be of longer duration, MOE should be contacted to determine whether additional sampling and monitoring should be implemented.

Immediate Actions:

- Notify Emergency Officer
- Telephone Hydro provider.
- Notify MOE and FISHERIES AND OCEANS CANADA.

5.3 Equipment Failure

In the event of a major equipment failure, such as failure of the blowers, the lagoon system will continue to function, but its treatment capacity will be compromised.

Immediate Actions:

If a berm fails, the affected cell should be taken out of service until the berm can be repaired.

- Notify Emergency Officer
- Arrange for immediate repair
- Notify MOE and FISHERIES AND OCEANS CANADA.



5.4 Chlorine Gas Leak

Chlorine is a strong oxidizing agent and poses a serious fire and explosion risk because it promotes combustion, like oxygen. Most combustible materials will ignite and/or burn in chlorine atmospheres, forming irritating and toxic gases.

Chlorine exposure can cause severe respiratory and skin injuries. Unprotected persons should avoid all contact with this chemical including contaminated equipment.

Chlorine gas is heavier than air and will collect and persist in pits, hollows, depressions, and other confined or low-lying areas. Chlorine is normally stable. It reacts with water to form a corrosive solution of hydrochloric acid and hypochlorous acid, which can decompose to chlorine, oxygen and chloric acid.

Immediate Actions:

The following steps should be undertaken following a spill or leak:

- Leave the area where the chlorine was released and get to fresh air. Go to the highest ground possible, because chlorine is heavier than air and will sink to low-lying areas.
- If possible, immediately put on a suitable respirator and leave the area until the severity of the release is determined. (Escape-type respiratory protective equipment should be available in the immediate work area.)
- Notify the Emergency Officer and/or the Fire Department.
- Report to the Emergency Officer or Fire Chief on the site, the nature of the leak, location, amount and extent of the affected areas.
- Evacuate the spill area for at least 20 m in all directions.
- In the event of a spill or leak involving chlorine, persons not wearing protective equipment and fully-encapsulating, vapor-protective clothing should be restricted from contaminated areas until cleanup has been completed.



- Do not re-enter the contaminated area until the Emergency Officer or Fire Chief or trained operator arrives on the site and indicates it is safe to enter.
- Remove or turn off all sources of heat and ignition.
- Keep all combustibles (wood, paper, oil, etc.) away from the leak.
- Ventilate potentially explosive atmospheres.
- Find and stop the leak if this can be done without risk; if not, move the leaking container to an isolated area until gas has dispersed, away from possible ignition sources, but only if possible while maintaining personal safety. Allow it to remain isolated until the all the gas has discharged, making certain that appropriate warnings have been posted. The cylinder may be allowed to empty through a reducing agent such as sodium bisulfide and sodium bicarbonate.
- Use water spray to reduce vapors; do not put water directly on the leak or spill area.
- Call chlorine supplier for assistance if leak can't be corrected promptly by local personnel.
- If exposed, remove clothing, rapidly wash entire body with soap and water, and get medical care as quickly as possible. Any clothing that has to be pulled over the head should be cut off the body instead of pulled over the head. If possible, seal the clothing in a plastic bag.
- If eyes are burning or vision is blurred, rinse eyes with plain water for 10 to 15 minutes. If wearing contacts, remove them before rinsing eyes.
- Seek medical attention for all exposures even if an exposure did not seem excessive. Symptoms of a severe respiratory injury can be delayed. Any signs of illness should be reported immediately to supervisory personnel. During or immediately after exposure to dangerous concentrations of chlorine, the following signs and symptoms may develop:
 - i. Coughing
 - ii. Chest tightness
 - iii. Burning sensation in the nose, throat, and eyes
 - iv. Watery eyes
 - v. Blurred vision



- vi. Nausea and vomiting
- vii. Burning pain, redness, and blisters on the skin if exposed to gas, skin injury similar to frostbite if exposed to liquid chlorine
- viii. Difficulty breathing or shortness of breath (may appear immediately if high concentrations of chlorine gas are inhaled, or may be delayed if low concentrations of chlorine gas are inhaled)
- ix. Fluid in the lungs (pulmonary edema) within 2 to 4 hours

Follow-up Actions:

After the leak has been contained or dissipated, the following actions must be carried out:

- Inspect contaminated area and identify any equipment and material that has been contaminated.
- Arrange for disposal of contaminated material as per federal, provincial or local regulations. Consult with local agency is required.
- De-contaminate, repair or replace any equipment or emergency equipment/tools as required.
- After cleanup is completed, inspect the facilities with the Emergency Officer to ensure that normal operations can be resumed safely.
- Prepare a written report of the incident to the Emergency Officer within 15 days of the incident. The report should include the following information:
 - i. Name, position and telephone number of the person filing the report.
 - ii. Date, time, and location of the leak
 - iii. Type and estimated quantity of leak.
 - iv. Cause of leak.
 - v. Brief description of the circumstances surrounding the incident.
 - vi. Description of contaminated area, equipment, material, soil, etc.
 - vii. Brief description of the actions taken to contain, recover, cleanup and dispose of contaminated equipment and materials.



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- viii. Name, position and telephone number of the Emergency Officer at the time of the spill.
- ix. Name, position and telephone number of the person(s) responsible for the containment, recovery, cleanup and disposal of contaminated equipment and materials.

5.5 Chemical Spill

Sodium sulfite is used to de-chlorinate the effluent prior to discharge into cell 5. It is not currently being used, but if required, will be stored and used in the lagoon operations building. Sodium sulfite dust may be irritating to the eyes and repeated contact can irritate the skin. Vapors may be mildly irritating to the nose and throat.

Immediate Actions:

The following steps should be undertaken following a spill or leak:

- If evacuation is necessary, evacuate the immediate area of the spill.
- Shut down the operations building.
- Notify the Emergency Officer and/or the Fire Department.
- Report to the Emergency Officer or Fire Chief on the site, the nature of the spill, chemicals involved, location, amount and extent of the affected areas.
- Do not re-enter the contaminated area until an Emergency Officer or Fire Chief or trained operator arrives on the site and indicates it is safe to enter.
- If the Emergency Officer or Fire Chief on site determines that the spill can be contained, ventilate the area, and contain the spill immediately.
- Wear appropriate personal protective equipment.
- Residue should be sprayed with plenty of water.
- Ventilate well to clear sulphur dioxide fumes which may form.

- Absorb solution with inert material such as sand or clay or with absorbent materials. Larger spills may be picked up using shovels, buckets or other means and placed in drums or other suitable containers.
- Transfer the spilled material and material used to contain and absorb it into approved waste containers for proper disposal.
- Consult and follow government regulations for proper disposal of hazardous materials.
- Notify the Environmental Health Officer at Health Canada.

Follow-up Actions:

After the spill has been contained and cleaned-up, the following actions must be carried out:

- Inspect contaminated area and identify any equipment, material, soil, etc, that has been contaminated.
- Arrange for disposal of contaminated material, soil, etc., as per federal, provincial or local regulations. Consult with local agency is required.
- De-contaminate, repair or replace any equipment or emergency equipment/tools as required.
- After cleanup is completed, inspect the facilities with the Emergency Officer to ensure that normal operations can be resumed safely.
- Prepare a written report of the incident to the Emergency Officer within 15 days of the incident. The report should include the following information:
 - x. Name, position and telephone number of the person filing the report.
 - xi. Date, time, and location of the spill
 - xii. Type and estimated quantity of containment spilled.
 - xiii. Cause of spill.
 - xiv. Brief description of the circumstances surrounding the incident.
 - xv. Description of contaminated area, equipment, material, soil, etc.



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- xvi. Brief description of the actions taken to contain, recover, cleanup and dispose of contaminated equipment, materials, soils, etc.
- xvii. Name, position and telephone number of the Emergency Officer at the time of the spill.
- xviii. Name, position and telephone number of the person(s) responsible for the containment, recovery, cleanup and disposal of contaminated equipment, materials, soil, etc.

6.0 TRAINING AND PREVENTION

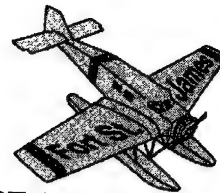
The operators should take all reasonable measures necessary to ensure that emergencies do not occur. These measures shall include, but not be limited to, the following:

- O&M personnel shall receive continuous and adequate training;
- Operations and maintenances of equipment, piping and material shall be carried out as per instructions in the manufacturer's manual, O&M manuals, and WCB and government regulations;
- The amount of chemicals stored shall not exceed the storage capacity of the facility or containment devices;
- Chemicals shall be handled and stored as per manufacturer's instructions.
- Detailed inspection of equipment, pipes, fittings, storage tanks and infection points shall be carried out regularly to identify any potential for leaks or spills.
- Develop and maintain an effective communication pathway to ensure proper response in the event of a spill
- Update list of contacts every 6 months or as required.
- The operations and emergency officer shall be familiar with the MSDS sheets of each chemical stored at the facility.
- The operation and emergency officer shall also be familiar with the water treatment plant surrounding, local infrastructure and geography (watercourses, ditches, ground profile, vegetation, etc.)





NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADE
OPERATIONS AND MAINTENANCE MANUAL**

APPENDIX A

Emergency Contacts List

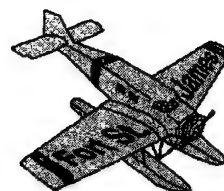
O&M PLAN - CONTACT LIST

Contact Name	Position	Organization	Telephone Number	
DISTRICT OF FORT ST. JAMES				
	Chief Operator	District of Fort St. James	Work	
			Home	
			Cell	
	Chief Administrator	District of Fort St. James	Work	
			Home	
			Cell	
	Mayor	District of Fort St. James	Work	
			Home	
			Cell	
	Emergency Officer	District of Fort St. James	Work	
			Home	
			Cell	
	Fire Chief	District of Fort St. James	Work	
			Home	
			Cell	
NAK'AZDLI BAND				
	Chief	Nak'azdli Band	Work	
			Home	
			Cell	
	Chief Administrator	Nak'azdli Band	Work	
			Home	
			Cell	
	Emergency Officer	Nak'azdli Band	Work	
			Home	
			Cell	

Contact Name	Position	Organization	Telephone Number
GOVERNMENT AGENCIES/REPAIR SERVICES/MEDIA			
	RCMP		
	Ambulance		
	Hospital		
	MOE		
	DFO		
	Ministry of Transportation		
	Health Unit		
	BC Hydro		
	Emergency Preparedness Program		
	Spill Report Centre (Provincial)		
	Natural Resources (Provincial)		
	Indian and Northern Affairs Canada, Regional Office		
	Radio Station		
	Newspaper		
	Television Station		
	Chlorine Gas Supplier		
	Excavation Services		



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE LAGOON
EMERGENCY RESPONSE PLAN**

APPENDIX A

Emergency Contact List

EMERGENCY RESPONSE PLAN - CONTACT LIST

Contact Name	Position	Organization	Telephone Number	
DISTRICT OF FORT ST. JAMES				
	Chief Operator	District of Fort St. James	Work	
			Home	
			Cell	
	Chief Administrator	District of Fort St. James	Work	
			Home	
			Cell	
	Mayor	District of Fort St. James	Work	
			Home	
			Cell	
	Emergency Officer	District of Fort St. James	Work	
			Home	
			Cell	
	Fire Chief	District of Fort St. James	Work	
			Home	
			Cell	
NAK'AZDLI BAND				
	Chief	Nak'azdli Band	Work	
			Home	
			Cell	
	Chief Administrator	Nak'azdli Band	Work	
			Home	
			Cell	
	Emergency Officer	Nak'azdli Band	Work	
			Home	
			Cell	



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Contact Name	Position	Organization	Telephone Number
GOVERNMENT AGENCIES/REPAIR SERVICES/MEDIA			
	RCMP		
	Ambulance		
	Hospital		
	MOE		
	FISHERIES AND OCEANS CANADA		
	Ministry of Transportation		
	Health Unit		
	BC Hydro		
	Emergency Preparedness Program		
	Spill Report Centre (Provincial)		
	Natural Resources (Provincial)		
	Indian and Northern Affairs Canada, Regional Office		
	Radio Station		
	Newspaper		



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Contact Name	Position	Organization	Telephone Number
	Television Station		
	Chlorine Gas Supplier		
	Excavation Services		

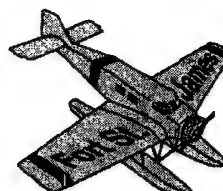


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APPENDIX B



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE LAGOON
EMERGENCY RESPONSE PLAN**

APPENDIX B

MSDS Sheets

Product #SFIT



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MATERIAL SAFETY DATA SHEET

Sodium Sulphite

Section 01 - Chemical And Product And Company Information

Product Identifier SULFTECH[®], technical grade Sodium Sulfite
SULFTECH[®], food grade Sodium Sulfite
SULFTECH[®], photographic grade Sodium Sulfite
SULFTECH[®], Catalyzed Sodium Sulfite
Sodium Sulphite, Catalyzed mixed with sodium metabisulfite
D-Chlor Tablets

Product Use Bleaching operations, reducing agent in the manufacture of dyes,
photographic developers and fixers, food additive, water treatment
dechlorinating agent

Supplier Name ClearTech Industries Inc.
2303 Hanselman Avenue
Saskatoon SK S7I 5Z3
Canada

Prepared By ClearTech Industries Inc. Technical Department
Phone: (306)664-2522

Preparation Date 05/04/04

24-Hour Emergency Phone 306-664-2522



Product #SFIT



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Section 02 - Composition / Information on Ingredients

Hazardous Ingredients.....	Sodium Sulphite	91-100%
	Sodium Sulphate	<4%
	<i>SULFTECH®</i> , Catalyzed Sodium Sulfite also contains the ingredient below:	
	Cobalt Sulphate	0.04%
	<i>Sodium Sulphite, Catalyzed mixed with sodium metabisulfite also contains the ingredients below:</i>	
	Cobalt Sulphate	0.07%
	Sodium Metabisulphite	2.2%
CAS Number.....	Sodium Sulphite	7757-83-7
	Sodium Sulphate	7757-82-6
	<i>SULFTECH®</i> , Catalyzed Sodium Sulfite also contains the ingredient below:	
	Cobalt Sulphate	10124-43-3
	<i>Sodium Sulphite, Catalyzed mixed with sodium metabisulfite also contains the ingredients below:</i>	
	Cobalt Sulphate	10124-43-3
	Sodium Metabisulphite	7681-57-4
Synonym (s).....	Disodium sulfite, sodium sulfite	

Section 03 - Hazard Identification

Inhalation.....	Inhalation of dust may irritate respiratory tract.
Skin Contact / Absorption.....	Dust may cause skin irritation from prolonged contact. Solutions will irritate.
Eye Contact.....	Dust may irritate or burn eyes. Solutions will irritate or burn.
Ingestion.....	Ingestion may irritate gastrointestinal tract. May cause severe allergic reaction in some asthmatics and sulphite sensitive individuals. Large doses may cause violent colic and diarrhea, circulatory disturbances, central nervous system depression, and even death.
Exposure Limits.....	None established for sodium sulphite. The decomposition product of sulphur dioxide has the following limits: OSHA TWA = 5ppm (sulphur dioxide) ACGIH TLV = 5ppm (sulphur dioxide) ACGIH STEL = 2ppm (sulphur dioxide)

Product #SFIT



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Section 04 - First Aid Measures

- Inhalation**..... Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
- Skin Contact / Absorption**..... Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists
- Eye Contact**..... Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention
- Ingestion**..... If conscious, immediately give 2 to 4 glasses of water or milk, and induce vomiting under medical supervision. Get immediate medical attention.
- Additional Information**..... Treat symptomatically. Note potential for anaphylactic shock with allergic individuals.

Section 05 - Fire Fighting

- Conditions of Flammability**..... Non-flammable
- Means of Extinction**..... Product does not burn. Where fire is involved, use any fire fighting agent appropriate for surrounding material; use water spray to cool fire-exposed surfaces.
- Flash Point**..... Not applicable
- Auto-ignition Temperature**..... Not applicable
- Upper Flammable Limit** Not applicable
- Lower Flammable Limit**..... Not applicable
- Hazardous Combustible Products**. Sulphur dioxide gas - toxic and corrosive
Sodium sulphide residue - flammable, dangerous fire risk, strong irritant to skin and tissue, incompatible with acids.
- Special Fire Fighting Procedures**.... Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
- Explosion Hazards**..... Non-explosive

Product #SFIT



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Section 06 - Accidental Release Measures

Leak / Spill..... Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Cautiously spray residue with plenty of water. Provide ventilation to clear sulphur dioxide fumes which may form.

Deactivating Materials..... Oxidizers

Section 07 - Handling and Storage

Handling Procedures..... Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Storage Requirements..... Store in a cool, dry area, away from acids or oxidizers. Keep container closed. Protect from physical damage.

Section 08 - Personal Protection and Exposure Controls

Protective Equipment

Eyes..... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Respiratory..... If dusty conditions prevail use a dust mask approved by NIOSH. If sulphur dioxide should be released use a self-contained breathing apparatus.

Gloves..... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.

Clothing..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.

Footwear..... Impervious boots of chemically resistant material should be worn at all times

Engineering Controls

Ventilation Requirements..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure, and control of process conditions. Supply sufficient replacement air to make up for air removed by exhaust systems.

Product #SFIT



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Other..... Keep incompatible materials out of hoods, ducts, etc. Provide eyewash facility near work place.

Section 09 - Physical and Chemical Properties

Physical State..... Solid

Odor and Appearance..... Odourless white to pale yellow crystals or powder

Odor Threshold..... Not applicable

Specific Gravity (Water=1)..... 2.63

Vapor Pressure (mm Hg, 20C)..... ~0

Vapor Density (Air=1)..... Not applicable

Evaporation Rate..... ~0

Boiling Point..... Not applicable

Freeze/Melting Point..... 900°C(decomposes)

pH..... 9.8 for a 5% solution

Water/Oil Distribution Coefficient... Data not available

Bulk Density..... Data not available

% Volatiles by Volume..... ~0

Solubility in Water..... 17% w/w at 16°C
28% w/w at 33°C

Molecular Formula..... Na_2SO_3

Molecular Weight..... 126.04

Section 10 - Stability and Reactivity

Stability..... Stable under normal conditions

Incompatibility..... Acids and strong oxidizers

Hazardous Products of Decomposition Reaction with strong oxidizers cause vigorous exothermic reactions.
Reaction with acids release sulfur dioxide gas.

Product #SFIT



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Polymerization..... Will not occur

Section 11 - Toxicological Information

Irritancy..... Mild irritant

Sensitization..... Data not available

Chronic/Acute Effects..... Acute effects - estimated to be moderately toxic.

Synergistic Materials..... Data not available

Animal Toxicity Data..... LD₅₀(oral,mouse) = 820mg/kg

Carcinogenicity..... Not considered to be carcinogenic by the ACGIH or IARC.

Reproductive Toxicity..... Data not available

Teratogenicity..... Sodium sulphate is listed as a possible teratogen by the seventh edition of *Dangerous Properties of Industrial Materials*.

Mutagenicity..... Sodium sulphite has been demonstrated to be mutagenic in microbial systems. It has not been mutagenic in studies involving insects and is not considered to pose a mutagenic threat to multicell organisms such as animals or humans.

Section 12 - Ecological Information

Fish Toxicity..... Aquatic toxicity:
TL_m(mosquito fish,96 hour) = 2600ppm
Biological oxygen demand (BOD) = 0.12kg/kg

Biodegradability..... Not available

Environmental Effects..... Not available

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Product #SFIT



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Section 14 - Transportation Information

TDG Classification

Class..... Not regulated
Group..... Not regulated
PIN Number..... Not regulated
Other..... Secure containers (full and/or empty) with suitable hold down devices during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....D2B

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS

Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

ClearTech Industries Inc. - Locations

Corporate Head Office: 2302 Hanselman Avenue, Saskatoon, SK, S7L 5Z3

Phone: 306-664-2522

Fax: 306-665-6216

www.ClearTech.ca

Location	Address	Postal Code	Phone Number	Fax Number
Richmond BC	12431 Horseshoe way	V7A 4X6	604-272-4000	604-272-4596
Calgary AB	5516E - 40 th St. S.E.	T2C 2A1	403-279-1096	403-236-0989
Edmonton AB	11750 - 180 th Street	T5S 1N7	780-452-6000	780-452-4600
Saskatoon SK	2302 Hanselman Avenue	S7L 5Z3	306-933-0177	306-933-3282
Regina SK	555 Henderson Drive	S42 5X2	306-721-7737	306-721-8611
Winnipeg MB	340 Saulteaux Crescent	R3J 3T2	204-987-9777	204-987-9770
Mississauga ON	7480 Bath Road	L4T 1L2	905-612-0566	905-612-0575

24 Hour Emergency Number - All Locations - 306-664-2522



Gestion responsable™
Au-delà des exigences.



Responsible Care™
Beyond what's required.

MATERIAL SAFETY DATA SHEET

THE FOLLOWING CLAUSE DISCLAIMS CANEXUS' LIABILITY, PLEASE READ IT CAREFULLY

The information herein is provided in good faith and believed to be accurate as of the effective date shown below. However, Canexus makes no warranty (of merchantability or otherwise), express or implied, with respect to the information in this MSDS and Canexus assumes no liability resulting from use of this MSDS or the information provided therein. Since conditions for use of the products described in this MSDS are not under Canexus' control, it is the buyer's/user's responsibility to make their own investigations to determine the suitability of the information for their particular purposes and to ensure that their activities comply with all federal, state, provincial or local laws and in no event shall Canexus be liable for any claims, losses, damages or expenses of any buyer/user, or of any third party, howsoever arising.

SECTION 1 - IDENTIFICATION

PRODUCT IDENTIFIER:	CHLORINE
PRODUCT USE:	Pulp bleaching, water treatment, manufacture of plastics, organic and inorganic chlorides, refrigerants, and pharmaceuticals.
MANUFACTURER:	Canexus Chemicals Canada Limited Partnership 100 Amherst Avenue North Vancouver, British Columbia, Canada V7H 1S4 Emergency, call: (604) 929-3441 To Request an MSDS, call: 1-800-699-6924

This MSDS is available in French upon request.

Cette fiche signalétique est disponible en français sur demande.

SECTION 2 - HAZARDS IDENTIFICATION

WHMIS CLASSIFICATION:

A - Compressed Gas



C - Oxidizing Material



D1A - Very Toxic Material causing immediate and serious toxic effects



D2A - Toxic Material causing other toxic effects

E - Corrosive Material



EMERGENCY OVERVIEW:

Greenish-yellow gas or clear amber liquid (under pressure) with a pungent odour. Compressed gas. Strong oxidizer. Contact with combustible material may cause fire or explosion. Combines with water to form corrosive hydrochloric and hypochlorous acids. Corrosive to the respiratory tract, eyes and skin. Very toxic. Can cause immediate death.

EFFECTS OF SHORT-TERM (ACUTE) EXPOSURE:

INHALATION: Chlorine is a severe nose, throat and upper respiratory tract irritant. Slight itching of the nose can occur at 0.2 ppm. At 1.0 ppm, scratchiness and dryness of the throat, coughing and minor difficulty breathing can occur. Severe shortness of breath and violent headache occur after exposure at 1.3 ppm for 30 minutes. Immediately dangerous to life or health (IDLH) at 10 ppm. Above 30 ppm, intense coughing, choking, chest pain and vomiting occur. Bronchitis and accumulation of fluid in the lungs may develop after severe exposure. High concentrations may cause death.

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CHLORINE

SKIN CONTACT: High concentrations of chlorine gas can cause severe irritation. Symptoms include burning and prickling sensations, reddening and blisters. Direct contact with liquid chlorine causes severe local irritation, burns and possibly frostbite.

EYE CONTACT: Chlorine gas is a severe irritant to the eyes. Symptoms include a stinging and burning sensation with tearing. Direct contact with liquid chlorine may cause burns, permanent damage, and possibly blindness.

INGESTION: Not applicable to gaseous chlorine.

EFFECTS OF LONG-TERM (CHRONIC) EXPOSURE:

Repeated and prolonged exposure at 5 ppm may cause respiratory effects, inflammation of the nose and corrosion of tooth enamel. No evidence of carcinogenicity in human or animal studies. Chlorine is unlikely to accumulate in the body since it reacts with water and tissues.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Pre-existing respiratory disorders.

SECTION 3 - COMPOSITION

HAZARDOUS INGREDIENTS	% (w/w)	CAS NUMBER
Chlorine	99.5	7782-50-5

SECTION 4 - FIRST AID MEASURES

INHALATION: Take precautions to ensure your own safety before attempting rescue. Wear appropriate personal protective equipment and use the 'buddy' system. Remove source of chlorine or remove victim to fresh air. If breathing has stopped, a trained person should begin artificial respiration, or if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Oxygen may be beneficial if administered by a suitably trained person. Obtain medical attention immediately.

SKIN CONTACT: Immediately flush contaminated areas with lukewarm, gently running water for at least 20 minutes. Remove contaminated clothing. If irritation persists, obtain medical attention immediately. Use cold packs to reduce pain.

EYE CONTACT: Immediately flush contaminated eye(s) with lukewarm, gently running water for at least 30 minutes, by the clock, while holding the eyelid(s) open. Take care not to rinse contaminated water into a non-affected eye. If irritation persists, obtain medical attention immediately.

INGESTION: Not applicable to gaseous chlorine.

GENERAL COMMENTS: Provide general supportive measures (comfort, warmth, rest). Seek medical attention for all exposures except minor instances of inhalation or skin contact. First-aid procedures should be reviewed by appropriate personnel familiar with chlorine and its conditions of use in the workplace.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT:	Does not burn, but strong oxidizer and fire risk	LOWER FLAMMABILITY LIMITS:	Not applicable	SENSITIVITY TO MECHANICAL IMPACT:	Not sensitive
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HAZARDOUS COMBUSTION PRODUCTS: Toxic products are formed when combustible materials burn in chlorine.

EXTINGUISHING MEDIA: Small fires: Dry chemical or carbon dioxide (CO₂). Large fires: Water spray, fog or foam as suitable for surrounding media.

FIRE FIGHTING INSTRUCTIONS: Wear adequate personal protective equipment. Remove chlorine containers from fire area if safe to do so. Use water to keep fire-exposed containers cool. Use water spray to direct escaping gas away from

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CHLORINE

persons, such as when trying to stop the flow of gas. Use water with caution as chlorine in water may be very corrosive. Ventilate area. Chlorine gas is heavier than air and will collect in low areas.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD INDEX:

HEALTH: 4 - May be fatal on short exposure. Specialized protective equipment required

FLAMMABILITY: 0 - Not combustible

REACTIVITY: 0 - Not reactive when mixed with water.

SPECIFIC HAZARDS: Oxidizing agent

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION: Evacuate unnecessary personnel from release area and keep unprotected persons upwind. Wear appropriate personal protective equipment including respiratory protection.

ENVIRONMENTAL PRECAUTIONS: Stop or reduce leak if safe to do so. Prevent chlorine from entering confined spaces, sewers or waterways.

REMEDIATION MEASURES: Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Extinguish or remove all sources of ignition. Ventilate area. Chlorine gas is heavier than air and will collect in low areas. Chlorine gas may be absorbed in alkaline solutions with a pH above 10. Notify government occupational health and safety and environmental authorities as per applicable regulations. In the United States, releases over 10 pounds must be reported to the National Response Center at 1-800-424-8802.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Follow safe handling practices for compressed gas cylinders as described by the Compressed Gas Association or the relevant agency in the country where the product is used. Regularly inspect and test piping and containment for chlorine service according to Chlorine Institute guidelines. Have emergency equipment readily available.

STORAGE: Store containers in a well ventilated area of low fire potential and away from incompatible materials. Cylinder temperature should never exceed 51 degrees C or 125 degrees F. Avoid storage of cylinders for more than 6 months. Protect containers from weather and physical damage.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS:

ACGIH TLV-C: 0.5 ppm A4, Not classifiable as a human carcinogen

ACGIH TLV- STEL: 1.0 ppm

OSHA PEL-TWA: 0.5 ppm

ENGINEERING CONTROLS: Use general or local exhaust ventilation to maintain exposure below the exposure limits. These controls may need to be augmented by the use of process or personnel enclosures, control of process conditions, or by process modification.

CHLORINE

RESPIRATORY PROTECTION:

NIOSH recommendations for chlorine concentrations in air:

Up to 5 ppm: Chemical cartridge respirator with chlorine cartridge(s), or Supplied Air Respirator (SAR). Up to 10 ppm: SAR operated in continuous flow mode, or powered air-purifying respirator with chlorine cartridge(s), or full-facepiece chemical cartridge respirator with chlorine cartridge(s), or full face-piece SCBA, or full face-piece SAR.

IDLH Conditions (10 ppm) or Planned Entry in Unknown Concentrations: Positive pressure, full face-piece SCBA, or positive pressure full face-piece SAR with an auxiliary positive pressure SCBA.

Escape: Gas mask with canister, or escape type SCBA.

NOTE: Air purifying respirators do not protect against oxygen deficient atmospheres.

In Brazil, use equipment with certificate of approval emitted by the Ministry of Labour.

SKIN PROTECTION: Wear impervious gloves and boots and/or other protective clothing according to circumstances. Some operations may require the use of an impervious full-body encapsulating suit.

EYE AND FACE PROTECTION: Eye protection is required. Chemical safety goggles are recommended. The wearing of contact lenses is not recommended.

OTHER: Have a safety shower and eye wash station readily available in the immediate work area.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Amber liquid or greenish-yellow gas.	MELTING POINT:	-101 °C
ODOUR:	Pungent. Detection at 0.2-0.4 ppm, but unreliable.	BOILING POINT:	-34 °C
pH:	Reacts with water to produce acid solutions.	CRITICAL TEMPERATURE:	144 °C
VAPOUR PRESSURE:	638.4 kPa (6.3 atmospheres) at 20 °C	RELATIVE DENSITY:	1.33 @ 15.6 °C
SOLUBILITY:	Slightly soluble in water and soluble alkalis, but reacts liberating heat.	PARTION COEFFICIENT: n-OCTANOL/WATER	Not applicable.
VAPOUR DENSITY:	2.5 (air = 1)	EVAPORATION RATE:	Not applicable.

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Dry chlorine is stable in steel containers at normal ambient conditions.

INCOMPATIBILITY: Chlorine is extremely reactive. Liquid or gaseous chlorine can react violently with many combustible materials, and other chemicals, including water. Metal halides, carbon, finely divided metals and sulphides can accelerate the rate of chlorine reactions. Chlorine is extremely corrosive to most metals in the presence of moisture (>150 ppm water) or at high temperatures. Combines with water to produce hydrochloric and hypochlorous acid. Chlorine reacts with carbon monoxide to produce toxic phosgene, and sulphur dioxide to produce sulphonyl chloride.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

HAZARDOUS POLYMERIZATION: Will not occur.

CHLORINE

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

LC50 Mouse: 137 ppm/1hr

LC50 Male rat: 260-344 ppm/1hr

CARCINOGENICITY: ACGIH: A4, Not classifiable as a human carcinogen

SENSITIZATION: Not a sensitizer

TERATOGENICITY: No information available

REPRODUCTIVE EFFECTS: No information available

MUTAGENICITY: No information available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

LC50 Daphnia magna: 0.097 mg/L/30 min

LC50 Daphnia magna: 0.063 mg/L/60 min

LC50 Yellow perch: 0.88 mg/L/60 min

Can cause immediate damage to wildlife and plants.

ECOLOGICAL FATE INFORMATION:

Unlikely to accumulate due to reactivity with moisture and tissues.

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose the contents of a leaking cylinder to a safe out-of-door area or a hood with forced ventilation. Attached an appropriate control valve with a trap or check valve and a long piece of flexible hose connected to the valve outlet. Discharge the gas at a moderate rate into an adequate amount of about 15% aqueous sodium hydroxide or other alkali in a suitable container. When all the gas has been discharged, close the cylinder valve and transport the resulting salt solution to the plant treating unit for neutralization and disposal. The cylinder should be tagged as defective and returned to the supplier according to its directions. Follow all federal, provincial/state, and local regulations. Consult with your local supplier for additional information. Residue in empty containers can be dangerous.

SECTION 14 - TRANSPORT INFORMATION

CANADIAN TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:

|| Chlorine, Class 2.3; 8 UN1017

ERAP Index QUANTITY RESTRICTION: 500 kg

US DOT HAZARDOUS MATERIALS REGULATIONS:

Chlorine, 2.3 (Poison gas), 8 (Corrosive), UN1017

Corrosive subsidiary label is required. Classified as a Marine Pollutant. Reportable Quantity, RQ = 10 lbs.

CHLORINE

BRAZILIAN TRANSPORTATION REQUIREMENTS:

Decreto Lei N 96.044 de 18.05.88: Regulamentação do Transporte Rodoviário de Produtos Perigosos

Portaria MT 204 de 20.05.1997: Instrução Complementar aos Regulamentos dos Transportes Rodoviários e Ferroviários de Produtos Perigosos

NBR 7500: Símbolos de Risco e Manuseio para o Transporte e Armazenagem de Materiais

NBR 7501: Terminologia - Transporte de Produtos Perigosos

NBR 7502: Transporte de Cargas Perigosas - Classificação

NBR 7503: Ficha de Emergência para o Transporte de Produto Perigoso - Características e Dimensões

NBR 7504: Envelope para o Transporte de Produtos Perigosos - Dimensões e Utilização

NBR 8285: Preenchimento da Ficha de Emergência para o Transporte de Produtos Perigosos - Procedimento

NBR 8286: Emprego de Simbologia para o Transporte de Produtos Perigosos - Procedimentos

NBR 9734: Conjunto de Equipamentos de Proteção Individual para Avaliação de Emergência e Fuga no Transporte Rodoviário de Produtos Perigosos - Procedimentos

NBR 9735: Conjunto de Equipamentos para Emergência no Transporte Rodoviário de Produtos Perigosos - Procedimentos

SECTION 15 - REGULATORY INFORMATION

CANADIAN FEDERAL REGULATIONS: (not a comprehensive list)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): Chlorine on the Domestic Substances List (DSL).

WHMIS CLASSIFICATION:

A - Compressed Gas

C - Oxidizing Material

D1A - Very Toxic Material causing immediate and serious toxic effects

D2A - Toxic Material causing other toxic effects

E - Corrosive Material

WHMIS INGREDIENT DISCLOSURE LIST: Yes, 1%

CPR COMPLIANCE

This product has been classified with the hazard criteria of the CPR, and the MSDS contains all the information required by CPR.

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CHLORINE

UNITED STATES FEDERAL REGULATIONS: (not a comprehensive list)

TOXIC SUBSTANCES CONTROL ACT (TSCA): Chlorine is listed on the inventory.

OSHA: Hazardous Substance under 29 CFR Section 1910, Subpart Z.

CERCLA: Hazardous Substance under 40 CFR Part 302, RQ = 10 lbs.

SARA 313: Toxic Chemical subject to the reporting requirements of 40 CFR Part 372

SARA 311/312 EPA HAZARD CATEGORIES: Immediate (Acute) Health, Sudden Release of Pressure

SARA 302: Extremely Hazardous Substance, Threshold Planning Quantity = 100 lbs.

NSF

|| This product has been certified to NSF/ANSI Standard 60 (Certificate number 07870/07871B).

SECTION 16 - OTHER INFORMATION

VERSION:	1.2
PREPARED BY:	Canexus Chemicals Responsible Care Department. If you have any questions, contact Canexus at: 1-800-699-6924.
REVISIONS:	Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document. Company changed from Nexen to Canexus on August 18, 2005.

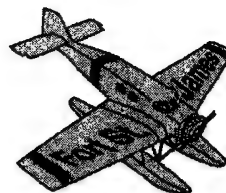
MSDS#: 0007

Effective date: 2005/August/18

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NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE LAGOON
EMERGENCY RESPONSE PLAN**

**APPENDIX C
Emergency Report Form**

**DISTRICT OF FORT ST. JAMES
SEWAGE TREATMENT LAGOON
EMERGENCY RESPONSE PLAN**

EMERGENCY REPORT FORM

Facility: Fort St. James Sewage Treatment Lagoon

Person filling the report

Name: _____ **Position:** _____

Tel: (_____) _____ **Cell:** (_____) _____

Emergency

Date: ____/____/____ **Time:** _____ AM or PM

Location: _____

Type of Emergency: _____

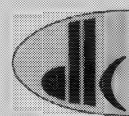
Est. quantities (if spill occurs): _____ L or ml or kg

Possible cause: _____

Details of incident: _____

Contaminated area/equipment/material/etc. _____

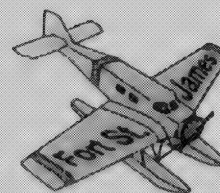
Actions taken to manage emergency: _____



Dayton & Knight Ltd.
CONSULTING ENGINEERS



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE LAGOON EMERGENCY RESPONSE PLAN

FEBRUARY 2006

**DAYTON & KNIGHT LTD.
Consulting Engineers**

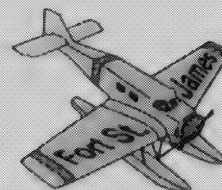




Dayton & Knight Ltd.
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NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

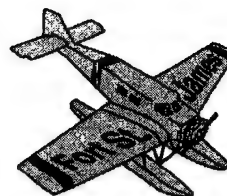
SEWAGE TREATMENT LAGOON UPGRADING ENVIRONMENTAL ASSESSMENT REPORT

FEBRUARY 2006

**DAYTON & KNIGHT LTD.
Consulting Engineers**



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADING
ENVIRONMENTAL ASSESSMENT REPORT**

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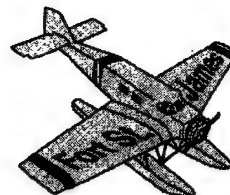
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DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING ENVIRONMENTAL ASSESSMENT REPORT

1.0 INTRODUCTION

The upgrade of the Fort St. James Sewage Lagoon System entails replacement of the existing coarse bubble diffuser aeration system with a more efficient fine bubble aeration system. The upgraded lagoon aeration system, in addition to providing better treatment in the lagoon overall, will also encompass aeration in two existing anaerobic cells thereby improving their performance and reducing odours. Included in the upgrade will be the installation of three new blowers to replace the existing 20 year old units that are reaching the end of their useful service life. A septage receiving and equalization chamber will also be incorporated into the work.

The Fort St. James sewage lagoon is located on the Necoslie River upstream from the bridge for the main arterial road that services Fort St. James. There has been a history of odour complaints both by nearby residents and vehicle traffic crossing over the aforementioned bridge. A previous study performed by Dayton & Knight Ltd¹ in 2000 concluded that the capacity of the existing lagoon system is satisfactory for current influent flows but may not provide acceptable treatment for higher flows associated with future population growth.

The septage receiving chamber will be used to store bulk loads of septage from the local district and provide controlled discharge to the lagoon network. Currently the septage is dumped from trucks into the influent sewer line and enters the lagoon as one instantaneous plug. This practice results in shock loading of the lagoon cells, upsetting the normal biological processes necessary

¹ "District of Fort St. James – Sewage Treatment Lagoon Assessment – Phase I, Dayton & Knight Ltd."

for the healthy function of the lagoon, and ultimately leads to unacceptable odours. The chamber will improve septage loading to the lagoon by providing for the gradual introduction of septage over a period of several hours.

Sizing of the new aeration system has been based on a 20-year design horizon population of 5,000 people in 2025, with significant spare capacity.

The proponents of this project are the District of Fort St James and the Nak'azdli Band. More information may be obtained by contacting:

Mr. Reg Mueller, A.Sc.T.
Carrier Sekani Tribal Council
Manager of Technical Services
1460 - 6th Avenue
Prince George, B.C.
V2L 3N2

or:
Mr. Nigel Black
District of Fort St. James
389 West Stuart Drive
Fort St. James, B.C.
V0J 1P0

2.0 MAPS/PLANS

A location plan and site plan for the subject site are attached.

3.0 ENVIRONMENTAL SETTING

The Fort St James Sewage Lagoon is located on the eastern bank of the Necoslie River on Nak'azdli Band I.R. No. 1 Lot 220. A marshland/slough area abundant in standing grass and other aquatic vegetation separates the lagoon from the main river flow. The topography of the river in this area suggests that it does not normally experience high water levels or severe currents. The river channel is characteristic of a delta, maintaining a slow moving and



meandering course. As the Necoslie River is fed by a relatively small drainage area, exclusive of any alpine valleys, the risk of flooding from runoff is limited.

The lagoon is built above the high water level of the river and is not at risk of being submerged by flood water. All lagoon cells are contained by berms. The original construction of these berms is not known but they are believed to consist of clay liners. The land surrounding the lagoon is forested. A gated, private gravel road is used to access the lagoon.

With respect to aquatic life, the meandering nature of the river renders this portion of the river habitable to many species of birds, fish, and other marshland wildlife. The existing outfall and effluent discharge has not resulted in any observable harm to aquatic or other wildlife. The scope of work for this project will not affect any areas in or adjacent to the river.

The Prince George office of the BC Ministry of the Environment has been consulted regarding this project.

4.0 IMPACTS

Resources

Apart from the addition of the septage receiving chamber, the majority of the work involves replacing existing piping and equipment with new items. The sewage lagoon footprint and topography will remain unchanged.

Identification of possible local environmental concerns is addressed as follows:

- a) Groundwater – No impact considered.
- b) Land and Soil – All disturbance will be limited to the construction site.

- c) Surface water – There are no open surface water bodies other than the lagoon cells in the immediate vicinity of the work. Silt curtains will be erected around excavation areas to prevent rain water run-off from entering active lagoon cells. The largest cell in the lagoon has a detention time of 45 days allowing for significant settling of any suspended solids that may be introduced by the Work.
- d) Wild life/habitat/migration patterns – There may be a temporary increase in BOD₅ (biochemical oxygen demand) levels in the lagoon effluent resulting from taking lagoon cells out of service during construction. The increased BOD₅ is still expected to remain within the allowable discharge limits as permitted by the existing Ministry of Environment Permit No. PE-0239 for the lagoon facility. However, a temporary amendment to the existing permit No. PE-0239 will be requested from the Ministry to allow for temporary elevated BOD and TSS levels to 110% above the allowable discharge limits during construction of the upgrade.
- e) Vegetation/Forests – There will be some impact on existing grassed area in the vicinity of the excavation for the septage receiving chamber. Approximately 25 m² of grassed area would be removed to accommodate the structure. The affected area is small in comparison to the overall facility size, which encompasses approximately 80,000 m². Any impact is judged to be insignificant.
- f) Air Quality and Noise – Heavy equipment will be operating during brief periods but its use will be confined to the site. Pumping will be required for recirculation of wastewater between the various cells. The sound levels that will be generated by these activities and transmitted to adjacent public areas are considered to be negligible.
- g) Recreational Resources – Both the Necoslie River and its terminus, Stuart Lake, are used for boating, fishing, and swimming. Effluent BOD₅ levels may increase temporarily during construction but are still expected to remain within allowable operating limits.



- h) Health & Safety – All health and safety requirements including WCB Regulations will be complied with in carrying out the work.
- i) Adjacent Land Uses – No impact considered.
- j) Impact on Special Places – The work will be conducted within the existing lagoon footprint and is not expected to affect any existing heritage sites. A letter from the Nak'azkli Band acknowledging that there are no impacts on any “special places” will be provided.

Construction Activities

- a) Dust – The formation of dust is expected to be limited to the use of the incoming gravel road that services the facility. Wetting of the gravel road will be performed to limit the amount of dust formation.
- b) Noise – Any noise produced by the work will be limited to pumping and heavy machinery activities that are brief in duration. The sound level of any noise at the facility property lines is expected to be negligible and not constitute a nuisance.
- c) Erosion – The topography of the site does not lend itself to any significant potential for erosion. No work will be performed in or adjacent to any moving bodies of water. No excavations will be remain opened for any undue period.
- d) Disturbance of Soil and Vegetation – Some temporary excavation of berms will be necessary for installation of new 100 mm and 200 dia. aeration piping. All excavation will be performed after the cells have first been drained down. Construction of the septage receiving chamber will require open pit excavation for a total area of approximately 40 m² by 3 metre depth. No cutting of any timber will be required for the work. All disturbances will be limited to the construction site.



- e) Filling in Land or Surface Waters – No land or surface water will be filled in.
- f) Paving, Trenching, Pipe-Laying, Road-Works, and Transmission Lines – No impacts beyond those indicated in Section a) above.
- g) Storage of Fuel and/or Chemical Products – Chlorine gas and Sodium bisulphate solution are currently stored on site and are used for disinfection and dechlorination respectively. No additional chemicals will be introduced as part of this project. All fuel will be stored in double containment containers and limited in volume to 1,000 L (250 imp gal)
- h) Waste Disposal – Existing sludge will be removed from the bottom of the lagoon cells as part of the Work. All removed sludge will be disposed of at an appropriate waste handling facility, which is licensed to receive the material. Sampling of the sludge will be performed prior to removal to identify major constituents and the presence of any toxic substances. A manifest will be produced identifying these for submittal to the waste disposal facility receiving the sludge prior to construction.
- i) Visual Impacts – No impacts considered
- j) Changes to Drainage Patterns – The work will not affect any existing drainage patterns on the site.
- k) Odour – Odours may temporarily increase during the work but the duration of any increased odours will be limited to the construction window.
- l) Safety – All work will be performed in accordance with the health and safety regulations of the WCB. There is currently no public access to the lagoon. Precautions will be taken to ensure that access to any hazardous working areas such as open excavations is appropriately restricted.



- m) Monitoring – Lagoon effluent will continue to be monitored in accordance with the Permit requirements, as amended for the temporary discharge during construction. As the work is not being conducted in or adjacent to any body of water, a full time environmental monitoring representative will not be engaged.

5.0 STUDIES/INVESTIGATIONS

A pre-design site audit was completed in 1999 by Dayton & Knight Ltd. for the purposes of ascertaining the existing sewage lagoon infrastructure. Sampling of the plant influent and effluent was conducted by District forces over a one year period.

An analysis of the sample data completed by Dayton & Knight Ltd. indicated plant effluent concentrations were well below the permitted maximum values on average. Influent concentrations were typically found to be below values predicted by empirical data. Because the sampling data to date has been based on a limited number of grab samples, it was agreed to adopt the empirical data as the design criteria to provide an adequate factor of safety. Influent strength was found to be particularly low during the summer season. Plant flows are also typically low during the summer after the spring run-off. The construction window for this work would be scheduled for the dry summer season to allow for maximum lagoon operation flexibility.

Sampling of the lagoon effluent is normally performed on a monthly basis by District forces in compliance with the Waste Water Management Act. This sampling will continue after installation of the new aeration equipment and provide accurate monitoring of the new system performance.

6.0 STUDIES/INVESTIGATIONS

Lagoon sampling was completed prior to undertaking of the detailed design for the upgrade. Samples were taken of the incoming influent, and at discharge points of each treatment cell, which are arranged in series, together with final lagoon effluent. As plant influent varies throughout the year, sampling was conducted over a one year period to capture typical

fluctuations in influent strength. Samples were measured for, among other constituents, concentrations of BOD₅ (five day biochemical oxygen demand). The results of this sampling program were used to confirm the design basis for the sewage lagoon upgrade. The design of the sewage lagoon upgrade ensures adequate treatment of sewage flows for both present and future projected population growth, minimizing any environmental impact from the plant discharge.

A geotechnical investigation was conducted by Golder Associates prior to the original construction of the lagoon in 1984. This investigation describes the liner and berm fill material requirements for construction of the new lagoon cells to limit seepage during operation. At this time there is no reason to believe that these guidelines were not followed in constructing the lagoon structure.

7.0 PROJECT ACTIVITIES AND MITIGATIVE MEASURES

Activities associated with this project include the construction, long-term operation, and maintenance of the upgraded aeration system and septage receiving station for the existing Fort St. James Sewage Lagoon.

The upgrade includes the installation of a new septage receiving and equalisation chamber and replacement of the existing coarse bubble diffuser system with a more efficient, fine bubble aeration system.

The septage receiving and equalisation chamber is intended to eliminate the current practice of bulk dumping of septage into the lagoon cells resulting in biological shock loading and process upsets. The new chamber will be equipped with a discharge valve that can be adjusted to allow gradual transfer of septage into the lagoon. As the chamber will be essentially enclosed, odour propagation from this facility will be negligible. Operation of the septage chamber does not require any mechanical equipment other than the outlet valve. A spare valve shall also be included with the facility to reduce any downtime of the septage chamber associated with a valve malfunction.



In the event of the chamber being out of commission, sewage can be dumped directly into the lagoon on a contingency basis. The lagoon effluent quality is not expected to be compromised by this action in light of the acceptable effluent quality readings currently being observed with this practice. Odour levels emanating from the lagoon cells may be temporarily elevated during this operation. However, they will be less than those experienced currently as the anaerobic cells that are used to receive the septage now, will become aerated as part of the work.

Find bubble aeration provides improved treatment and has lower relative power requirements resulting in energy cost savings. New blowers will be installed as part of the work and are to be controlled by adjustable speed drives versus the existing fixed speed units. The adjustable speed drive control will provide operational flexibility. Specifically, the plant will have the ability to turndown blower output during periods of lower lagoon loadings resulting in energy cost savings. Environmentally, the long-term advantages of this project are reduced power consumption and better overall treatment of sewage as well as reduced odours to neighbouring residential and public areas.

Only two blower units are required to satisfy the aeration requirements of the upgraded lagoon for both current and future design influent flows. A third, standby blower will also be installed and will operate in the event of a malfunction of one of the primary blowers. This redundancy built into the design mitigates any environmental impacts associated with equipment malfunctioning.

Operation and Maintenance Manuals for all equipment will be compiled during the construction of the new facility. This O&M Manuals will include the required maintenance and service intervals for the various pieces of equipment to ensure the long term reliable operation of the facility. Routine monitoring of the lagoon effluent is currently required by the Waste Management Act Permit and will be continued after the upgrade to verify satisfactory performance. As well, interim monitoring will be performed after start-up of the new facility to ensure that the new system is providing adequate treatment. Operator training is required under the Municipal Sewage Regulation and will occur under the direction the District of Fort St. James.



Remedial work associated with this project includes the removal of sludge that has accumulated in the bottom of the lagoon cells to date. This sludge will be sampled by the District in advance of construction and disposed of in accordance with MOE requirements and approvals. The estimated sludge volume has been approximated to be 1,500 m³. No other significant waste materials are expected to result from the work. All incidental waste items will be removed from site by the contractor and appropriately disposed off-site.

Construction of the new facility will include upgrading of Cells No. 1, 2, 3, and 5 (refer to Design Brief and Drawings). To provide satisfactory operation of the lagoon during construction, only one cell will be ever be taken out of service to be worked on. All lagoon sewage flow will be bypassed around the particular cell that is taken out of service. The existing lagoon piping configuration allows for bypassing of flow around any of the lagoon cells. A construction sequence outlined in Section 1 of the Technical Specifications is intended to ensure adequate treatment during the work and is reproduced below for easy reference:

"Sequence of Operation"

Before commencing work the Contractor shall submit a detailed plan showing his proposed sequence and timing of operations. This plan shall be in addition to and separate from his construction schedule. Acceptance by the Corporation of the proposed sequence of operations will in no way relieve the Contractor of the responsibility for providing facilities which permit adequate sewage treatment during the entire construction period.

One of the possible construction sequences is described below. The Contractor shall review the above sequence, adjusted it to suit to his requirements and submit the planned sequence for the Corporation's approval within fourteen (14) calendar days following the award of contract.

- (a) Install new air header to Cell No.'s 1 and 2 and connect to existing blower header. Bypass and drain down Cell No. 1, remove sludge, install aeration equipment and ancillaries, connect to new air header, test and commission system, bring Cell 1 on line.

- (b) Repeat Process for Cell No. 2.
- (c) Repeat process for Cell No. 3 including connection of aeration system to existing FRP air header.
- (d) Repeat process for Cell No. 5 with the exception of no removal of sludge.
- (e) Replace blowers on a rotational basis in unison with other ongoing work.

Lagoon wastewater shall be continuously recirculated from Cell 4 back to the Intercell Control Structure 1 (ICS 1) during work on any of the four Cells being taken out of service. The Contractor shall supply all necessary temporary hosing, pumps, valves, and fittings required for recirculation. In particular, the Contractor shall supply a portable centrifugal, recessed impeller pump with a 1,020 lpm (300 gpm) capacity. The pump shall be suitable for dirty wastewater service and come equipped with a motor, floating suction, discharge check valve, pressure gauge, and a clearly labelled emergency shutdown switch. Contractor shall determine suitable pump, motor, and hose size for transferring the maximum flow of 1,020 lpm from Cell 4 to ICS 1. Hose shall be rated to 150 psi and Contractor shall provide all suitable protection from vehicle traffic for those sections of hose that cross roadways. Contractor shall provide all necessary power and wiring required for operation of the pump in conformance with the Canadian Electrical Code and the specifications herein."

The construction of the septage receiving chamber will require open pit excavation, possible dewatering, and removal of a small parcel of grassed area.

As a general guideline, the Contractor is required to adhere to Section 1.24 "Protection of Environment and Watercourses" of Section 1 of the Technical Specifications in performing the work.



In summary, no negative environmental or related impacts or cumulative affects are expected to arise from this project based on the preceding discussion. The lagoon upgrade will significantly improve the treatment of raw sewage and associated quality of effluent being discharged to the Necoslie River as well as mitigate foul odours.

8.0 DESIGN INFORMATION

Design information is provided in the design brief and contract drawings and specifications enclosed under separate cover.

The proper operation and maintenance of the upgraded sewage lagoon, currently practised at the existing facility, will have negligible impacts on the environment. As detailed in Section 2.4, the operation and control of the upgraded aeration system will result in reduced energy consumption. Treatment of sewage is improved using the fine bubble aeration system resulting in cleaner effluent and fewer odours. Implementation of a septage receiving and equalization chamber will eliminate biological shock loading of the lagoon system, maintaining a consistent and better overall performance.

The upgrade project scope does not include any modification of the existing chlorination/dechlorination system. Chlorination is currently used by the treatment plant to disinfect plant effluent. A new chlorine contact tank was installed in 2001 to accommodate future plant flows of 3,600 m³/day and the chlorination system was revamped at the same time. The chlorination system has scheduled annual servicing every year. The mandate of the latest Municipal Sewage Regulations is for the discharger to "review and assess alternative means of disinfection prior to using chlorination". This mandate would apply to any future upgrades to be undertaken on the chlorination system and is not addressed by this project.

9.0 MONITORING

As part of the compliance with the Waste Management Act permit issued for the Fort St. James Lagoon Facility, ongoing monitoring is required during the life of the facility. This monitoring

consists of monthly sampling of the lagoon effluent BOD, TSS, and fecal coliform. Chlorine residual in the plant effluent is tested daily.

The aforementioned monitoring requirements in place now are felt to be adequate for gauging the future performance of the upgraded lagoon and verifying that compliance with ministry regulations is maintained.

10.0 PERMITS AND APPROVALS

A temporary amendment to the existing Ministry of Environment Permit No. PE-0239 will be requested as part of the work. This amendment will allow for temporary elevated BOD and TSS levels above the normal discharge limits during construction of the upgrade. The MOE has tentatively indicated a temporary allowance for BOD and TSS levels to be 110% of the normal allowable discharge limits. A formal application for this permit amendment has not been requested at this design stage but will be pursued just prior to construction.

Sludge removal and disposal will be completed in accordance with the Water Management Act and Health Act – Organic Matter Recycling Regulation, or under a Approval authorized by MOE.

No other required approvals have been identified.

11.0 PUBLIC PARTICIPATION AND CONSULTATION

There has been no formal public involvement concerning this project as the work includes upgrading of an existing facility within the same footprint. Odour complaints have been lodged by the public and have in part prompted the upgrade of the lagoon.



12.0 CLOSURE

No significant adverse environmental affects associated with the upgrade of the Fort St. James sewage treatment lagoon have been identified. Treatment of sewage during construction may be temporarily diminished but only to a minor degree. A contingent operating plan has been developed to mitigate any decrease in the treatment of sewage during construction. Overall, the upgraded facility, once complete, will improve the treatment of sewage, reduce odours, and improve the quality of discharge to the Necoslie River. See Table 1 on the following page for a complete list of environmental concerns and associated mitigative measures.

The recommended screening decision is "01: Effects not likely significant (considering mitigation) and public concern does not warrant further assessment – project supported".

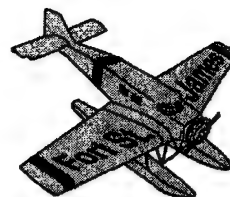


**TABLE 1
 PROPOSED MITIGATION MEASURES**

Project Activity	Valued Ecosystem Component	Environmental Concerns	Summary of Effects	Mitigative Measures
Installation of Septage Chamber	Grassed Areas, Necoslie River	Removal of vegetation, Silt Run-off into lagoon and affecting treatment of sewage during construction	Affected vegetation area negligible. Increased TSS entering river if significant runoff from construction into lagoon	Minimize construction footprint for Septage Chamber. Use silt curtains and comply with excavation dewatering procedures as per contract documents
Taking Lagoon Cells off line during construction	Necoslie River	Decreased effluent quality. Increased BOD and TSS loading to the river. Decreased oxygen available for aquaculture	Possible disturbance to fish habitat. Public health concerns with decreased effluent quality	Coordinate work as per contingency plan in Contract Documents. Perform routine dissolved oxygen measurements. Temporarily increase chlorination to provide adequate disinfection of effluent. Perform work during drier periods when incoming flows are lowest
Removal of existing sludge	Ground water	Trace heavy metals	Sludge may contain pathogenic bacteria that can adversely affect human health. Trace metals can seep into groundwater if not properly contained endangering human health	Testing of sludge prior to removal to indicate presence of any trace hazardous materials. Proper disposal of sludge off-site to an appropriate facility.



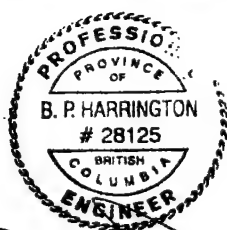
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DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING ENVIRONMENTAL ASSESSMENT REPORT

FEBRUARY 2006



DEC 19, 2006

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LIMITATIONS AND DISCLOSURE

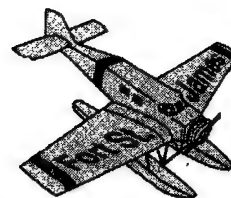
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DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADE OPERATIONS AND MAINTENANCE MANUAL

1.0 GENERAL

1.1 Introduction

The District of Fort St. James operates a sewage lagoon facility for the treatment of domestic sewage from the community of Fort St. James and the Nak'azdli Band. The lagoon is located on Necoslie IR1, on land leased by the District of Fort St. James, who operate the lagoon through an MTSA (Municipal Type Servicing Agreement) with the Nak'azdli Band. The sewage lagoon is located close to the Necoslie River upstream from the bridge for the main road that services Fort St. James.

The sewage lagoon was constructed in 1985. An operation and maintenance manual was prepared at that time by Urban Systems Ltd. This operation manual updates the existing manual to reflect the following upgrades which were designed in 2005 by Dayton & Knight Ltd.:

1. Replacement of the blowers with new two new blowers with adjustable speed drive controls.
2. Aeration upgrade which includes installing a fine bubble aeration system in Cells 1, 2, 3 and 5.
3. Construction of a septage receiving facility consisting of a 14 m³ holding tank with a slow release discharge valve.



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The upgrades will improve the treatment system, converting the lagoon system from a combination anaerobic and aerobic treatment system to entirely aerobic treatment system.

The operation and maintenance manual provides guidance to the operators on the general operation and maintenance of the system. Detailed operation and maintenance requirements for the equipment are offered in the manufacturers manuals and should be referenced.

1.2 General Description

Sewage enters the Fort St. James sewage treatment lagoon facility through a 300mm diameter sewer, which discharges into a series of five lagoon cells. The normal process stream flows sequentially from cell 1 to cell 5 before final discharge into the Necoslie River. Presently, cells 3, 4 and 5 are aerated with coarse bubble diffusers. The lagoon will be upgraded in the near future, after which time cells 1, 2, 3 and 5 will all be aerated with fine bubble aerators. The five coarse bubble aerators in cell 4 will continue to be used.

Wastewater flows from cell 4 into a chlorination-dechlorination contact chamber, and passes through a flowmeter, which records the plant flows on a chart recorder, before discharge into cell 5. Dechlorination is not currently practiced, since the long retention and aeration provided in cell 5 has been sufficient to remove any trace of chlorine in the effluent. The chlorination system uses chlorine gas, and the dechlorination system uses sodium sulphite solution.

The lagoon cells are interconnected to each other using a system of pipes, manholes and intercell control structures. This enables changes to the flow configuration to be made for the purpose of isolating a lagoon cell for service or repair.



Aeration air is provided by two 40 hp Aerzen positive displacement blowers. Typically, only one unit operates, with the second acting as a backup or for unusually high flows. Air is distributed to the lagoons by a system of submerged air piping.

The plant effluent discharges from cell 5 into an outfall sewer that discharges into the Necoslie River. The outfall is provided with a diffuser to distribute the effluent across the width of the river.

1.3 Design Capacity

In 1985, the 20-year 2025 design population was assumed to be 5,000 people. A re-assessment of the present and future total population served by the lagoon facility was carried out in 2000 under a study completed by Dayton & Knight Ltd¹. This assessment determined that the connected population to the treatment facility is 3,100, and that the 20-year projected connected population would be 4,000 people. The facility also presently accepts septage from septic tanks for 770 people.

Based on the new projections, the average daily flow was estimated to be 1,800 m³/day for the 20-year population. The maximum month infiltration was estimated to be 1,200 m³/day, which added to average daily flow equates to a maximum day flow of 3,000 m³/day.

The actual flows are recorded by a flowmeter and chart recorded, and can be checked against projected flows from time to time.

The permit allows for a discharge of up to 3200 m³/day, and, therefore, will continue to be valid for the 20-year design horizon.

¹ "District of Fort St. James – Sewage Treatment Lagoon Assessment – Phase I, Dayton & Knight Ltd."

1.4 Permit Effluent Criteria

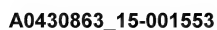
The Waste Management Act Permit (PE-00239) sets the effluent criteria as follows:

5 Day Biochemical Demand (BOD ₅)	30 mg/L
Total Suspended Solids (TSS)	30 mg/L
Maximum Rate of Sewage Discharge	3200 m ³ /d

The upgrades are designed to produce safe effluent which will meet the parameters set out in the permit issued by the Waste Management Branch of the Ministry of Environment for the 20-year design horizon, provided the lagoon system is operated in accordance with its design.







The weir in Intercell Control Structure No. 4 controls the liquid level of Cells 1, 2 and 3 and the weir in the Effluent Discharge Structure controls the level in Cell 4, the chlorination-dechlorination structure and Cell 5.

The operation of the treatment cells can be controlled by adjusting the stop log weir assemblies in Intercell Control Structure No. 4 or in the Effluent Discharge Structure, and by opening or closing the valves in the intercell control structures, or in the chlorination/de-chlorination structure. Figures 2 to 7 illustrate schematically how to use these controls to bypass each of Cells 1 to 4, or to bypass the chlorination-de-chlorination structure.

A pump out manhole (Pump Out Manhole No. 2) allows for removal of accumulated sludge in Cells No. 1, 2 and 3. A temporary submersible drainage pump can be placed within this manhole to perform the task.

2.4 Flowmeter, Chlorination and De-chlorination

The effluent from Cell 4 is chlorinated, then de-chlorinated, prior to discharge into the aerated polishing cell, cell 5. The chlorination/de-chlorination system is a cast in place concrete structure located between Cells 4 and 5 and consists of a chlorine contact tank, a dechlorination contact tank and a flowmeter. A 150 mm diameter magnetic flowmeter measures flow on the discharge line from Cell 4 and is equipped with a remote chart recorder located in the Operations Building.

Chlorine is injected into the flow downstream of the flowmeter prior to flowing into the baffled chlorine contact chamber. Sodium sulfate solution is injected into the flow at the following discharge from the chlorine contact tank. Chlorine and sodium sulfate are piped from the operations building. The de-chlorination tank discharges to Cell 5.



Valves allow the flowmeter or the chlorination/de-chlorination system to be bypassed.

2.5 Operations Building

2.5.1 Aeration System

Air is supplied to the aerators by air blowers location in the operations building. There are two blowers (which replaced three blowers prior to the upgrade).

- | | |
|--|--|
| • Equipment Model | Aerzen Delta Blower Package GM 30L |
| • Equipment Application | Lagoon aeration system air blowers and accessories |
| • Manufacturer | Aerzen Canada Blowers Compressors Inc. |
| • Rated Capacity | 425 L/s (900 CFM) |
| • Rated Pressure | 5 m H ₂ O (7 P.S.I.D.) |
| • Intake Air Temperature | -20°C to 25°C |
| • Power Supply | 575 V, 3 Ph, 60 Hz |
| • Service Factor | 1.15 |
| • Motor output power | 30 kW (40 hp) |
| • Motor Type | VFD Duty Rated |
| • Explosion Hazard Area Classification | N/A |
| • Driver Control | Hand/Off/Auto switch (for each blower) |

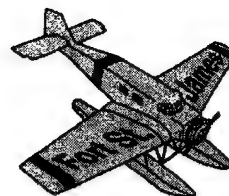
The new blowers are controlled by adjustable speed drive controls which provide operational flexibility. The blower output can be turned down during periods of lower lagoon loadings, reducing power consumption and allowing for better overall treatment of sewage, including the reduction of odours.

The single blower intake louver is equipped with a removable filter (dimensions 610 mm x 1220 mm x 37 mm) with should be inspected periodically and replaced when clogged.





NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADE OPERATIONS AND MAINTENANCE MANUAL

3.0 SAFETY PROCEDURES

Workers must be familiar with the MSDS documents for all the chemicals they work with. These are attached in Appendix B.

Workers should be familiar with the WCB Chlorine Safe Work Practices. These are attached in Appendix C.

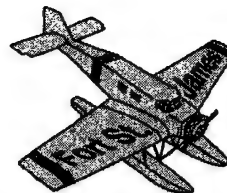
All workers required to enter and work in confined spaces must know the hazards of working in these spaces and the precautions required for their safety and be familiar with WCB regulations. All confined spaces must be tested for oxygen levels, combustible gases and other contaminants suspected to be present prior to entry. At least one other capable person must be outside the confined space to assist during normal operations and in the event of an emergency.



Dayton & Knight Ltd.
CONSULTING ENGINEERS



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

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4.0 OPERATION AND MAINTENANCE SCHEDULE

All the information below should be recorded on the Maintenance Report Form.

Daily Tasks

1. Inspect lagoon: Observe lagoon levels and ensure aerators are operational.
2. Remove any objects caught by the bar screen with a rake at the septage receiving station.
3. Inspect Operations Building
 - Check chart recorder for flowmeter, replace chart if necessary.
 - Check the equipment, mechanical and electrical systems
 - Check chlorine cylinders
 - Check operation of chlorination injection system
 - Check solution level in sodium sulfite solution tank
 - Check operation of dechlorination system

Semi-annual Tasks

1. Check filter on air inlet louver; clean or replace as necessary.
2. Inspect manholes.
3. Inspect Intercell control structures and effluent discharge structure; exercise valves.
4. Inspect septage receiving station tank and valve chamber; exercise discharge valve.
5. Inspect perimeter fence; repair as necessary.



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CONSULTING ENGINEERS

Yearly Tasks

1. Inspect berms; repair as necessary.
2. Measure sludge levels in lagoon cells to determine if sludge needs to be removed.
3. Engage qualified electrician to check all main wiring connections and record all pump amperage readings.



A new air duct has been installed which connected to the existing air intake duct.

Each blower is equipped with an inlet and discharge silencer.

Each blower is equipped with a temperature switch on its discharge and a pressure relief valve. The temperature switch will shut the blower off if they become overheated, which is unlikely to occur, but may for occur if the intake louver or filter become blocked or excessively clogged. The pressure relief valve is also a safety feature to protect the blower if the discharge pressure becomes excessively high due to a blocked line or closed valve.

The main aeration header located along the south wall of the operations building has isolating valves between each blower. There are four headers extending from the main header, one each to Cell 3, 4 and 5, and a new header to Cells 1 and 2 (the 300 mm pipe exiting the east wall supplies Cells 1 and 2; the 200 mm pipe exiting the south wall supplies air to Cell 3; the 150 mm pipe further along the south wall supplies Cell 5; and the 150 mm pipe exiting the west wall supplies air to Cell 4). Since Cell 5 is shallower than Cells 3 and 4, a pressure reducing device has been installed in the main header near its west end. The device consists of a 50 mm diameter pressure relieve valve enclosed within a 200 mm diameter tee. Under normal operating levels, the pressure relief valve should be set at 13.8 kPa (2 psi) which represents approximately 1.4m (4.5 ft.) of static head.

2.5.2 Chlorination System

The Waste Management Permit for the facility requires that the sewage effluent be chlorinated prior to discharge, to kill any harmful pathogenic bacteria that may be present. The chlorination system is installed in a separate room in the northeast corner of the operations building. The room has an exterior emergency exit. The room is equipped



with a chlorine gas detector and an automatically operated exhaust fan to provide protection in the event of a chlorine gas leak. The fan is operated by the light switch and the opening of either of the two doors.

Chlorine is stored in this room in 45 kg (100 lb) cylinders. The cylinder in use rests on a scale to monitor its weight during use to determine when it is empty.

The chlorinator, rotometer, and chlorine ejector are Fischer Porter Model 70C1721.

The chlorinator requires a liquid flow through the ejector to operate. Since water is not available, sewage effluent is pumped from just ahead of the chlorination contact tank through the ejector creating a vacuum which draws chlorine gas from the cylinder. The amount of chlorine is controlled by the rotometer mounted on the cylinder. The chlorine solution is then piped to the header of the chlorine contact tank. The required residual chlorine concentration after the 60 minute contact time is between 0.5 mg/l and 2.0 mg/l. The chlorine dosage should be controlled to obtain this concentration.

The pump is a Myers Ejecto Pump Model HJ 50S, and is located in a sump in the northwest corner of the building, at an elevation of 684.4 meters. The intake into the chlorine contact tank is at an elevation of 684.0, and, therefore, the liquid level in this tank must be at least 0.4m higher than the intake in order for the pump and chlorination system to operate.

2.5.3 Dechlorination System

Dechlorination is required to prevent chlorine, which is harmful to fish, from entering the Necoslie River. Some dechlorination will be achieved in the aerated polishing cell (Cell 5), and at lower flows, when the plant is operating below its capacity, complete removal of chlorine may be achieved in this cell. Chemical de-chlorination is required if the polishing cell does not completely dissipate the chlorine residual in the effluent.



The chemical dechlorination facilities consist of a chemical solution tank with a manual mixer and a chemical metering pump. The chemical metering pump is a Prominent Model A1201 pulsating pump which discharges into a 25 mm pipe terminating at a diffuser at the head of the dechlorination tank. The de-chlorination tank follows the chlorination contact tank and discharges to the aerated polishing cell.

The chemical solution tank is 380 liters (85 gallons) in volume. Dechlorination can be accomplished with either a sodium sulfite solution or sodium bisulfate solution.

The ratio of sodium sulfite applied to chlorine to be removed is approximately 1.8 to 1, meaning 1.8 mg of sodium sulfite is required to remove 1 mg of chlorine. The ratio of sodium bisulfite applied to chlorine to be removed is approximately 1.46 to 1.

At the average design flow of 1.8 MLD, and based on a concentration of chlorine of 0.5 mg/L to be removed, the amount of sodium sulfite that will be required is the following:

$$1,800,000 \text{ l/day} \times 0.5 \text{ mg/l} \times 1.8 = 1.62 \text{ kg/day.}$$

Typically, sodium sulfite is sold in 22.7 kg bags, and, therefore, a 3-month supply is 6.5 bags.

Based on a weekly re-fill of the solution tank, 11.2 kg of sodium sulfite should be added to the 380 litre solution tank ($1.6 \text{ kg/day} \times 7 \text{ days} = 11.2 \text{ kg}$). The metering pump should be set to deliver approximately 54 L/day, or 2.25 litres per hour.

The concentration of the solution to be mixed depends on the length of time between refills of the solution tank. The dosage of the solution to the effluent can also be adjusted on the chemical metering pump by changing the frequency of the pulse or the stroke length.

2.6 Septage Receiving Chamber

The septage receiving and equalization chamber is intended to eliminate the previous practice of bulk dumping of septage into the lagoon resulting in biological shock loading which causes unacceptable odours. The chamber is equipped with a discharge valve that can be adjusted to allow gradual transfer of septage into the lagoon. Operation of the septage chamber does not require any mechanical equipment, except for the outlet valve.

If the chamber is out of commission, sewage can be dumped directly into the lagoon on a contingency basis. The lagoon effluent quality is not expected to be compromised by this action. Odour levels emanating from the lagoon cells may be temporarily elevated during this operation.

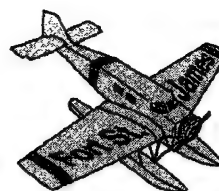
A hinged bar screen prevents the entry of any large elements into the system. Access to the chamber is via a pull up ladder.



APPENDIX B



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADE
OPERATIONS AND MAINTENANCE MANUAL**

APPENDIX B

MSDS Documents

Product #SFIT



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MATERIAL SAFETY DATA SHEET

Sodium Sulphite

Section 01 - Chemical And Product And Company Information

Product Identifier SULFTECH[®], technical grade Sodium Sulfite
SULFTECH[®], food grade Sodium Sulfite
SULFTECH[®], photographic grade Sodium Sulfite
SULFTECH[®], Catalyzed Sodium Sulfite
Sodium Sulphite, Catalyzed mixed with sodium metabisulfite
D-Chlor Tablets

Product Use Bleaching operations, reducing agent in the manufacture of dyes,
photographic developers and fixers, food additive, water treatment
dechlorinating agent

Supplier Name..... ClearTech Industries Inc.
2303 Hanselman Avenue
Saskatoon SK S7I 5Z3
Canada

Prepared By..... ClearTech Industries Inc. Technical Department
Phone: (306)664-2522

Preparation Date..... 05/04/04

24-Hour Emergency Phone..... 306-664-2522



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Section 02 - Composition / Information on Ingredients

Hazardous Ingredients	Sodium Sulphite	91-100%
	Sodium Sulphate	<4%
	<i>SULFTECH®</i> , Catalyzed Sodium Sulfite also contains the ingredient below:	
	Cobalt Sulphate	0.04%
	<i>Sodium Sulphite, Catalyzed mixed with sodium metabisulfite also contains the ingredients below:</i>	
	Cobalt Sulphate	0.07%
	Sodium Metabisulphite	2.2%
CAS Number	Sodium Sulphite	7757-83-7
	Sodium Sulphate	7757-82-6
	<i>SULFTECH®</i> , Catalyzed Sodium Sulfite also contains the ingredient below:	
	Cobalt Sulphate	10124-43-3
	<i>Sodium Sulphite, Catalyzed mixed with sodium metabisulfite also contains the ingredients below:</i>	
	Cobalt Sulphate	10124-43-3
	Sodium Metabisulphite	7681-57-4
Synonym (s)	Disodium sulfite, sodium sulfite	

Section 03 - Hazard Identification

Inhalation	Inhalation of dust may irritate respiratory tract.
Skin Contact / Absorption	Dust may cause skin irritation from prolonged contact. Solutions will irritate.
Eye Contact	Dust may irritate or burn eyes. Solutions will irritate or burn.
Ingestion	Ingestion may irritate gastrointestinal tract. May cause severe allergic reaction in some asthmatics and sulphite sensitive individuals. Large doses may cause violent colic and diarrhea, circulatory disturbances, central nervous system depression, and even death.
Exposure Limits	None established for sodium sulphite. The decomposition product of sulphur dioxide has the following limits: OSHA TWA = 5ppm (sulphur dioxide) ACGIH TLV = 5ppm (sulphur dioxide) ACGIH STEL = 2ppm (sulphur dioxide)

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Section 04 - First Aid Measures

Inhalation	Remove victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek immediate medical attention.
Skin Contact / Absorption	Remove contaminated clothing. Wash affected area with soap and water. Seek medical attention if irritation occurs or persists
Eye Contact	Flush immediately with water for at least 20 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye tissue. Seek immediate medical attention
Ingestion	If conscious, immediately give 2 to 4 glasses of water or milk, and induce vomiting under medical supervision. Get immediate medical attention.
Additional Information	Treat symptomatically. Note potential for anaphylactic shock with allergic individuals.

Section 05 - Fire Fighting

Conditions of Flammability	Non-flammable
Means of Extinction	Product does not burn. Where fire is involved, use any fire fighting agent appropriate for surrounding material; use water spray to cool fire-exposed surfaces.
Flash Point	Not applicable
Auto-ignition Temperature	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Hazardous Combustible Products .	Sulphur dioxide gas - toxic and corrosive Sodium sulphide residue - flammable, dangerous fire risk, strong irritant to skin and tissue, incompatible with acids.
Special Fire Fighting Procedures ...	Wear NIOSH-approved self-contained breathing apparatus and protective clothing.
Explosion Hazards	Non-explosive

Product #SFIT



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Section 06 - Accidental Release Measures

Leak / Spill..... Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Prevent material from entering sewers. Cautiously spray residue with plenty of water. Provide ventilation to clear sulphur dioxide fumes which may form.

Deactivating Materials..... Oxidizers

Section 07 - Handling and Storage

Handling Procedures..... Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

Storage Requirements..... Store in a cool, dry area, away from acids or oxidizers. Keep container closed. Protect from physical damage.

Section 08 - Personal Protection and Exposure Controls

Protective Equipment

Eyes..... Chemical goggles, full-face shield, or a full-face respirator is to be worn at all times when product is handled. Contact lenses should not be worn; they may contribute to severe eye injury.

Respiratory..... If dusty conditions prevail use a dust mask approved by NIOSH. If sulphur dioxide should be released use a self-contained breathing apparatus.

Gloves..... Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.

Clothing..... Body suits, aprons, and/or coveralls of chemical resistant material should be worn at all times. Wash contaminated clothing with soap and water, dry thoroughly before reuse.

Footwear..... Impervious boots of chemically resistant material should be worn at all times

Engineering Controls

Ventilation Requirements..... Mechanical ventilation (dilution or local exhaust), process or personnel enclosure, and control of process conditions. Supply sufficient replacement air to make up for air removed by exhaust systems.

 Product #SFIT



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Other..... Keep incompatible materials out of hoods, ducts, etc. Provide eyewash facility near work place.

Section 09 - Physical and Chemical Properties

Physical State..... Solid

Odor and Appearance..... Odourless white to pale yellow crystals or powder

Odor Threshold..... Not applicable

Specific Gravity (Water=1)..... 2.63

Vapor Pressure (mm Hg, 20C)..... ~0

Vapor Density (Air=1)..... Not applicable

Evaporation Rate..... ~0

Boiling Point..... Not applicable

Freeze/Melting Point..... 900°C(decomposes)

pH..... 9.8 for a 5% solution

Water/Oil Distribution Coefficient... Data not available

Bulk Density..... Data not available

% Volatiles by Volume..... ~0

Solubility in Water..... 17% w/w at 16°C
28% w/w at 33°C

Molecular Formula..... Na_2SO_3

Molecular Weight..... 126.04

Section 10 - Stability and Reactivity

Stability..... Stable under normal conditions

Incompatibility..... Acids and strong oxidizers

Hazardous Products of Decomposition Reaction with strong oxidizers cause vigorous exothermic reactions.
Reaction with acids release sulfur dioxide gas.

Product #SFIT



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Polymerization..... Will not occur

Section 11 - Toxicological Information

Irritancy..... Mild irritant

Sensitization..... Data not available

Chronic/Acute Effects..... Acute effects - estimated to be moderately toxic.

Synergistic Materials..... Data not available

Animal Toxicity Data..... LD₅₀(oral,mouse) = 820mg/kg

Carcinogenicity..... Not considered to be carcinogenic by the ACGIH or IARC.

Reproductive Toxicity..... Data not available

Teratogenicity..... Sodium sulphate is listed as a possible teratogen by the seventh edition of *Dangerous Properties of Industrial Materials*.

Mutagenicity..... Sodium sulphite has been demonstrated to be mutagenic in microbial systems. It has not been mutagenic in studies involving insects and is not considered to pose a mutagenic threat to multicell organisms such as animals or humans.

Section 12 - Ecological Information

Fish Toxicity..... Aquatic toxicity:
TL_m(mosquito fish,96 hour) = 2600ppm
Biological oxygen demand (BOD) = 0.12kg/kg

Biodegradability..... Not available

Environmental Effects..... Not available

Section 13 - Disposal Consideration

Waste Disposal..... Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

Product #SFIT



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Section 14 - Transportation Information

TDG Classification

Class..... Not regulated
Group..... Not regulated
PIN Number..... Not regulated
Other..... Secure containers (full and/or empty) with suitable hold down devices during shipment.

Section 15 - Regulatory Information

WHMIS Classification.....D2B

NOTE: THE PRODUCT LISTED ON THIS MSDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS MSDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS

Section 16 - Other Information

Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

ClearTech Industries Inc. - Locations

Corporate Head Office: 2302 Hanselman Avenue, Saskatoon, SK, S7L 5Z3
Phone: 306-664-2522
Fax: 306-665-6216

www.ClearTech.ca

Location	Address	Postal Code	Phone Number	Fax Number
Richmond BC	12431 Horseshoe way	V7A 4X6	604-272-4000	604-272-4596
Calgary AB	5516E - 40 th St. S.E.	T2C 2A1	403-279-1096	403-236-0989
Edmonton AB	11750 - 180 th Street	T5S 1N7	780-452-6000	780-452-4600
Saskatoon SK	2302 Hanselman Avenue	S7L 5Z3	306-933-0177	306-933-3282
Regina SK	555 Henderson Drive	S4S 5X2	306-721-7737	306-721-8611
Winnipeg MB	340 Saulteaux Crescent	R3J 3T2	204-987-9777	204-987-9770
Mississauga ON	7480 Bath Road	L4T 1L2	905-612-0566	905-612-0575

24 Hour Emergency Number - All Locations - 306-664-2522



MATERIAL SAFETY DATA SHEET

THE FOLLOWING CLAUSE DISCLAIMS CANEXUS' LIABILITY, PLEASE READ IT CAREFULLY

The information herein is provided in good faith and believed to be accurate as of the effective date shown below. However, Canexus makes no warranty (of merchantability or otherwise), express or implied, with respect to the information in this MSDS and Canexus assumes no liability resulting from use of this MSDS or the information provided therein. Since conditions for use of the products described in this MSDS are not under Canexus' control, it is the buyer's/user's responsibility to make their own investigations to determine the suitability of the information for their particular purposes and to ensure that their activities comply with all federal, state, provincial or local laws and in no event shall Canexus be liable for any claims, losses, damages or expenses of any buyer/user, or of any third party, howsoever arising.

SECTION 1 - IDENTIFICATION

PRODUCT IDENTIFIER:	CHLORINE
PRODUCT USE:	Pulp bleaching, water treatment, manufacture of plastics, organic and inorganic chlorides, refrigerants, and pharmaceuticals.
MANUFACTURER:	Canexus Chemicals Canada Limited Partnership 100 Amherst Avenue North Vancouver, British Columbia, Canada V7H 1S4 Emergency, call: (604) 929-3441 To Request an MSDS, call: 1-800-699-6924

This MSDS is available in French upon request.

Cette fiche signalétique est disponible en français sur demande.

SECTION 2 - HAZARDS IDENTIFICATION

WHMIS CLASSIFICATION:

A - Compressed Gas



C - Oxidizing Material



D1A - Very Toxic Material causing immediate and serious toxic effects



D2A - Toxic Material causing other toxic effects

E - Corrosive Material



EMERGENCY OVERVIEW:

Greenish-yellow gas or clear amber liquid (under pressure) with a pungent odour. Compressed gas. Strong oxidizer. Contact with combustible material may cause fire or explosion. Combines with water to form corrosive hydrochloric and hypochlorous acids. Corrosive to the respiratory tract, eyes and skin. Very toxic. Can cause immediate death.

EFFECTS OF SHORT-TERM (ACUTE) EXPOSURE:

INHALATION: Chlorine is a severe nose, throat and upper respiratory tract irritant. Slight itching of the nose can occur at 0.2 ppm. At 1.0 ppm, scratchiness and dryness of the throat, coughing and minor difficulty breathing can occur. Severe shortness of breath and violent headache occur after exposure at 1.3 ppm for 30 minutes. Immediately dangerous to life or health (IDLH) at 10 ppm. Above 30 ppm, intense coughing, choking, chest pain and vomiting occur. Bronchitis and accumulation of fluid in the lungs may develop after severe exposure. High concentrations may cause death.

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CHLORINE

SKIN CONTACT: High concentrations of chlorine gas can cause severe irritation. Symptoms include burning and prickling sensations, reddening and blisters. Direct contact with liquid chlorine causes severe local irritation, burns and possibly frostbite.

EYE CONTACT: Chlorine gas is a severe irritant to the eyes. Symptoms include a stinging and burning sensation with tearing. Direct contact with liquid chlorine may cause burns, permanent damage, and possibly blindness.

INGESTION: Not applicable to gaseous chlorine.

EFFECTS OF LONG-TERM (CHRONIC) EXPOSURE:

Repeated and prolonged exposure at 5 ppm may cause respiratory effects, inflammation of the nose and corrosion of tooth enamel. No evidence of carcinogenicity in human or animal studies. Chlorine is unlikely to accumulate in the body since it reacts with water and tissues.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Pre-existing respiratory disorders.

SECTION 3 - COMPOSITION

HAZARDOUS INGREDIENTS	% (w/w)	CAS NUMBER
Chlorine	99.5	7782-50-5

SECTION 4 - FIRST AID MEASURES

INHALATION: Take precautions to ensure your own safety before attempting rescue. Wear appropriate personal protective equipment and use the 'buddy' system. Remove source of chlorine or remove victim to fresh air. If breathing has stopped, a trained person should begin artificial respiration, or if the heart has stopped, cardiopulmonary resuscitation (CPR) immediately. Oxygen may be beneficial if administered by a suitably trained person. Obtain medical attention immediately.

SKIN CONTACT: Immediately flush contaminated areas with lukewarm, gently running water for at least 20 minutes. Remove contaminated clothing. If irritation persists, obtain medical attention immediately. Use cold packs to reduce pain.

EYE CONTACT: Immediately flush contaminated eye(s) with lukewarm, gently running water for at least 30 minutes, by the clock, while holding the eyelid(s) open. Take care not to rinse contaminated water into a non-affected eye. If irritation persists, obtain medical attention immediately.

INGESTION: Not applicable to gaseous chlorine.

GENERAL COMMENTS: Provide general supportive measures (comfort, warmth, rest). Seek medical attention for all exposures except minor instances of inhalation or skin contact. First-aid procedures should be reviewed by appropriate personnel familiar with chlorine and its conditions of use in the workplace.

SECTION 5 - FIRE FIGHTING MEASURES

FLASH POINT:	Does not burn, but strong oxidizer and fire risk	LOWER FLAMMABILITY LIMITS:	Not applicable	SENSITIVITY TO MECHANICAL IMPACT:	Not sensitive
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HAZARDOUS COMBUSTION PRODUCTS: Toxic products are formed when combustible materials burn in chlorine.

EXTINGUISHING MEDIA: Small fires: Dry chemical or carbon dioxide (CO₂). Large fires: Water spray, fog or foam as suitable for surrounding media.

FIRE FIGHTING INSTRUCTIONS: Wear adequate personal protective equipment. Remove chlorine containers from fire area if safe to do so. Use water to keep fire-exposed containers cool. Use water spray to direct escaping gas away from

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CHLORINE

persons, such as when trying to stop the flow of gas. Use water with caution as chlorine in water may be very corrosive. Ventilate area. Chlorine gas is heavier than air and will collect in low areas.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) HAZARD INDEX:

HEALTH: 4 - May be fatal on short exposure. Specialized protective equipment required

FLAMMABILITY: 0 - Not combustible

REACTIVITY: 0 - Not reactive when mixed with water.

SPECIFIC HAZARDS: Oxidizing agent

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTION: Evacuate unnecessary personnel from release area and keep unprotected persons upwind. Wear appropriate personal protective equipment including respiratory protection.

ENVIRONMENTAL PRECAUTIONS: Stop or reduce leak if safe to do so. Prevent chlorine from entering confined spaces, sewers or waterways.

REMEDIATION MEASURES: Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Extinguish or remove all sources of ignition. Ventilate area. Chlorine gas is heavier than air and will collect in low areas. Chlorine gas may be absorbed in alkaline solutions with a pH above 10. Notify government occupational health and safety and environmental authorities as per applicable regulations. In the United States, releases over 10 pounds must be reported to the National Response Center at 1-800-424-8802.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Follow safe handling practices for compressed gas cylinders as described by the Compressed Gas Association or the relevant agency in the country where the product is used. Regularly inspect and test piping and containment for chlorine service according to Chlorine Institute guidelines. Have emergency equipment readily available.

STORAGE: Store containers in a well ventilated area of low fire potential and away from incompatible materials. Cylinder temperature should never exceed 51 degrees C or 125 degrees F. Avoid storage of cylinders for more than 6 months. Protect containers from weather and physical damage.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS:

ACGIH TLV-C: 0.5 ppm A4, Not classifiable as a human carcinogen

ACGIH TLV- STEL: 1.0 ppm

OSHA PEL-TWA: 0.5 ppm

ENGINEERING CONTROLS: Use general or local exhaust ventilation to maintain exposure below the exposure limits. These controls may need to be augmented by the use of process or personnel enclosures, control of process conditions, or by process modification.

CHLORINE

RESPIRATORY PROTECTION:

NIOSH recommendations for chlorine concentrations in air:

Up to 5 ppm: Chemical cartridge respirator with chlorine cartridge(s), or Supplied Air Respirator (SAR). Up to 10 ppm: SAR operated in continuous flow mode, or powered air-purifying respirator with chlorine cartridge(s), or full-facepiece chemical cartridge respirator with chlorine cartridge(s), or full face-piece SCBA, or full face-piece SAR.

IDLH Conditions (10 ppm) or Planned Entry in Unknown Concentrations: Positive pressure, full face-piece SCBA, or positive pressure full face-piece SAR with an auxiliary positive pressure SCBA.

Escape: Gas mask with canister, or escape type SCBA.

NOTE: Air purifying respirators do not protect against oxygen deficient atmospheres.

In Brazil, use equipment with certificate of approval emitted by the Ministry of Labour.

SKIN PROTECTION: Wear impervious gloves and boots and/or other protective clothing according to circumstances. Some operations may require the use of an impervious full-body encapsulating suit.

EYE AND FACE PROTECTION: Eye protection is required. Chemical safety goggles are recommended. The wearing of contact lenses is not recommended.

OTHER: Have a safety shower and eye wash station readily available in the immediate work area.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Amber liquid or greenish-yellow gas.	MELTING POINT:	-101 °C
ODOUR:	Pungent. Detection at 0.2-0.4 ppm, but unreliable.	BOILING POINT:	-34 °C
pH:	Reacts with water to produce acid solutions.	CRITICAL TEMPERATURE:	144 °C
VAPOUR PRESSURE:	638.4 kPa (6.3 atmospheres) at 20 °C	RELATIVE DENSITY:	1.33 @ 15.6 °C
SOLUBILITY:	Slightly soluble in water and soluble alkalis, but reacts liberating heat.	PARTION COEFFICIENT: n-OCTANOL/WATER	Not applicable.
VAPOUR DENSITY:	2.5 (air = 1)	EVAPORATION RATE:	Not applicable.

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Dry chlorine is stable in steel containers at normal ambient conditions.

INCOMPATIBILITY: Chlorine is extremely reactive. Liquid or gaseous chlorine can react violently with many combustible materials, and other chemicals, including water. Metal halides, carbon, finely divided metals and sulphides can accelerate the rate of chlorine reactions. Chlorine is extremely corrosive to most metals in the presence of moisture (>150 ppm water) or at high temperatures. Combines with water to produce hydrochloric and hypochlorous acid. Chlorine reacts with carbon monoxide to produce toxic phosgene, and sulphur dioxide to produce suluryl chloride.

HAZARDOUS DECOMPOSITION PRODUCTS: None.

HAZARDOUS POLYMERIZATION: Will not occur.

MSDS#: 0007

Effective date: 2005/August/18

Page 4 of 7

CHLORINE

SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE EFFECTS:

LC50 Mouse: 137 ppm/1hr

LC50 Male rat: 260-344 ppm/1hr

CARCINOGENICITY: ACGIH: A4, Not classifiable as a human carcinogen

SENSITIZATION: Not a sensitizer

TERATOGENICITY: No information available

REPRODUCTIVE EFFECTS: No information available

MUTAGENICITY: No information available

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

LC50 Daphnia magna: 0.097 mg/L/30 min

LC50 Daphnia magna: 0.063 mg/L/60 min

LC50 Yellow perch: 0.88 mg/L/60 min

Can cause immediate damage to wildlife and plants.

ECOLOGICAL FATE INFORMATION:

Unlikely to accumulate due to reactivity with moisture and tissues.

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose the contents of a leaking cylinder to a safe out-of-door area or a hood with forced ventilation. Attached an appropriate control valve with a trap or check valve and a long piece of flexible hose connected to the valve outlet. Discharge the gas at a moderate rate into an adequate amount of about 15% aqueous sodium hydroxide or other alkali in a suitable container. When all the gas has been discharged, close the cylinder valve and transport the resulting salt solution to the plant treating unit for neutralization and disposal. The cylinder should be tagged as defective and returned to the supplier according to its directions. Follow all federal, provincial/state, and local regulations. Consult with your local supplier for additional information. Residue in empty containers can be dangerous.

SECTION 14 - TRANSPORT INFORMATION

CANADIAN TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:

|| Chlorine, Class 2.3; 8 UN1017

ERAP Index QUANTITY RESTRICTION: 500 kg

US DOT HAZARDOUS MATERIALS REGULATIONS:

Chlorine, 2.3 (Poison gas), 8 (Corrosive), UN1017

Corrosive subsidiary label is required. Classified as a Marine Pollutant. Reportable Quantity, RQ = 10 lbs.

MSDS#: 0007

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CHLORINE

BRAZILIAN TRANSPORTATION REQUIREMENTS:

Decreto Lei N 96.044 de 18.05.88: Regulamentação do Transporte Rodoviário de Produtos Perigosos

Portaria MT 204 de 20.05.1997: Instrução Complementar aos Regulamentos dos Transportes Rodoviários e Ferroviários de Produtos Perigosos

NBR 7500: Símbolos de Risco e Manuseio para o Transporte e Armazenagem de Materiais

NBR 7501: Terminologia - Transporte de Produtos Perigosos

NBR 7502: Transporte de Cargas Perigosas - Classificação

NBR 7503: Ficha de Emergência para o Transporte de Produto Perigoso - Características e Dimensões

NBR 7504: Envelope para o Transporte de Produtos Perigosos - Dimensões e Utilização

NBR 8285: Preenchimento da Ficha de Emergência para o Transporte de Produtos Perigosos - Procedimento

NBR 8286: Emprego de Simbologia para o Transporte de Produtos Perigosos - Procedimentos

NBR 9734: Conjunto de Equipamentos de Proteção Individual para Avaliação de Emergência e Fuga no Transporte Rodoviário de Produtos Perigosos - Procedimentos

NBR 9735: Conjunto de Equipamentos para Emergência no Transporte Rodoviário de Produtos Perigosos - Procedimentos

SECTION 15 - REGULATORY INFORMATION

CANADIAN FEDERAL REGULATIONS: (not a comprehensive list)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): Chlorine on the Domestic Substances List (DSL).

WHMIS CLASSIFICATION:

A - Compressed Gas

C - Oxidizing Material

D1A - Very Toxic Material causing immediate and serious toxic effects

D2A - Toxic Material causing other toxic effects

E - Corrosive Material

WHMIS INGREDIENT DISCLOSURE LIST: Yes, 1%

CPR COMPLIANCE

This product has been classified with the hazard criteria of the CPR, and the MSDS contains all the information required by CPR.

MSDS#: 0007

Effective date: 2005/August/18

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CHLORINE

UNITED STATES FEDERAL REGULATIONS: (not a comprehensive list)

TOXIC SUBSTANCES CONTROL ACT (TSCA): Chlorine is listed on the inventory.

OSHA: Hazardous Substance under 29 CFR Section 1910, Subpart Z.

CERCLA: Hazardous Substance under 40 CFR Part 302, RQ = 10 lbs.

SARA 313: Toxic Chemical subject to the reporting requirements of 40 CFR Part 372

SARA 311/312 EPA HAZARD CATEGORIES: Immediate (Acute) Health, Sudden Release of Pressure

SARA 302: Extremely Hazardous Substance, Threshold Planning Quantity = 100 lbs.

NSF

|| This product has been certified to NSF/ANSI Standard 60 (Certificate number 07870/07871B).

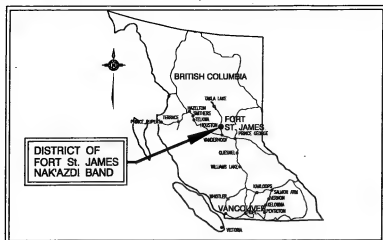
SECTION 16 - OTHER INFORMATION

VERSION:	1.2
PREPARED BY:	Canexus Chemicals Responsible Care Department. If you have any questions, contact Canexus at: 1-800-699-6924
REVISIONS:	Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document. Company changed from Nexen to Canexus on August 18, 2005.

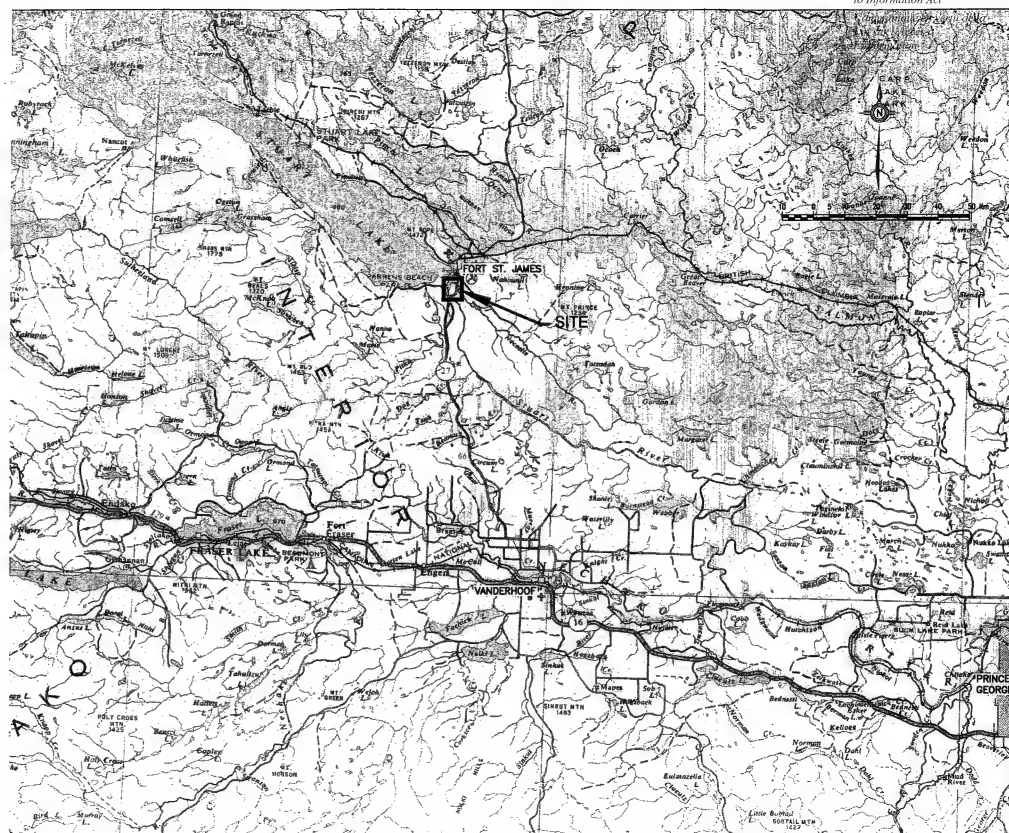
MSDS#: 0007

Effective date: 2005/August/18

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KEY PLAN



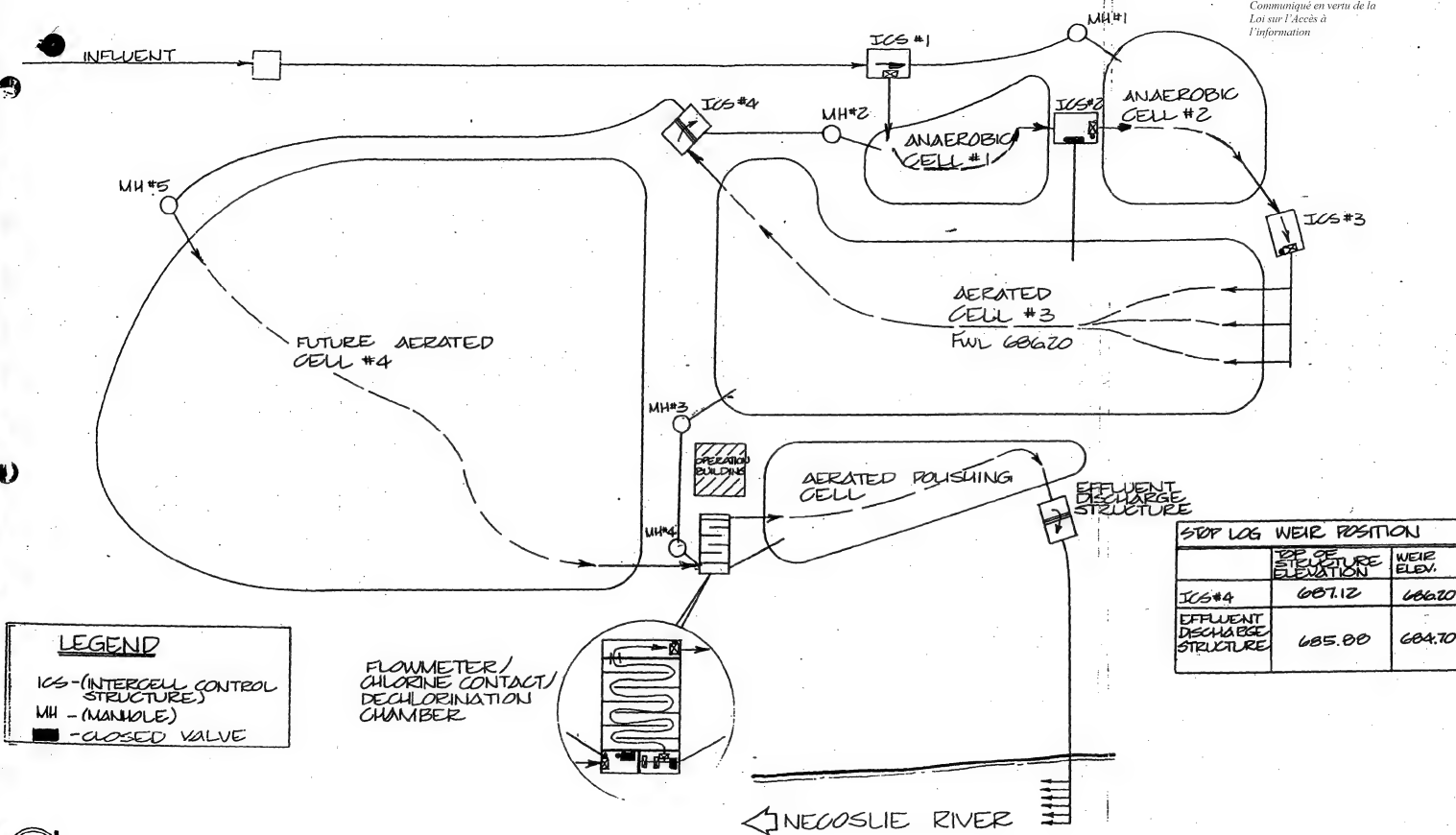
LOCATION PLAN

**NAK'AZDI BAND AND
DISTRICT OF FORT ST. JAMES
AERATED LAGOON UPGRADE
ENVIRONMENTAL ASSESSMENT REPORT**

FIGURE 1

ACAD 000-403-1 FIGURES 1-1 06-02-70

Dayton & Knight Ltd.
CONSULTING ENGINEERS
SUITE 101, 101 ST. JAMES ST. W.
VANCOUVER, B.C. V6P 1G1



LEGEND
ICS - (INTERCELL CONTROL STRUCTURE)
MH - (MANHOLE)
■ - CLOSED VALVE

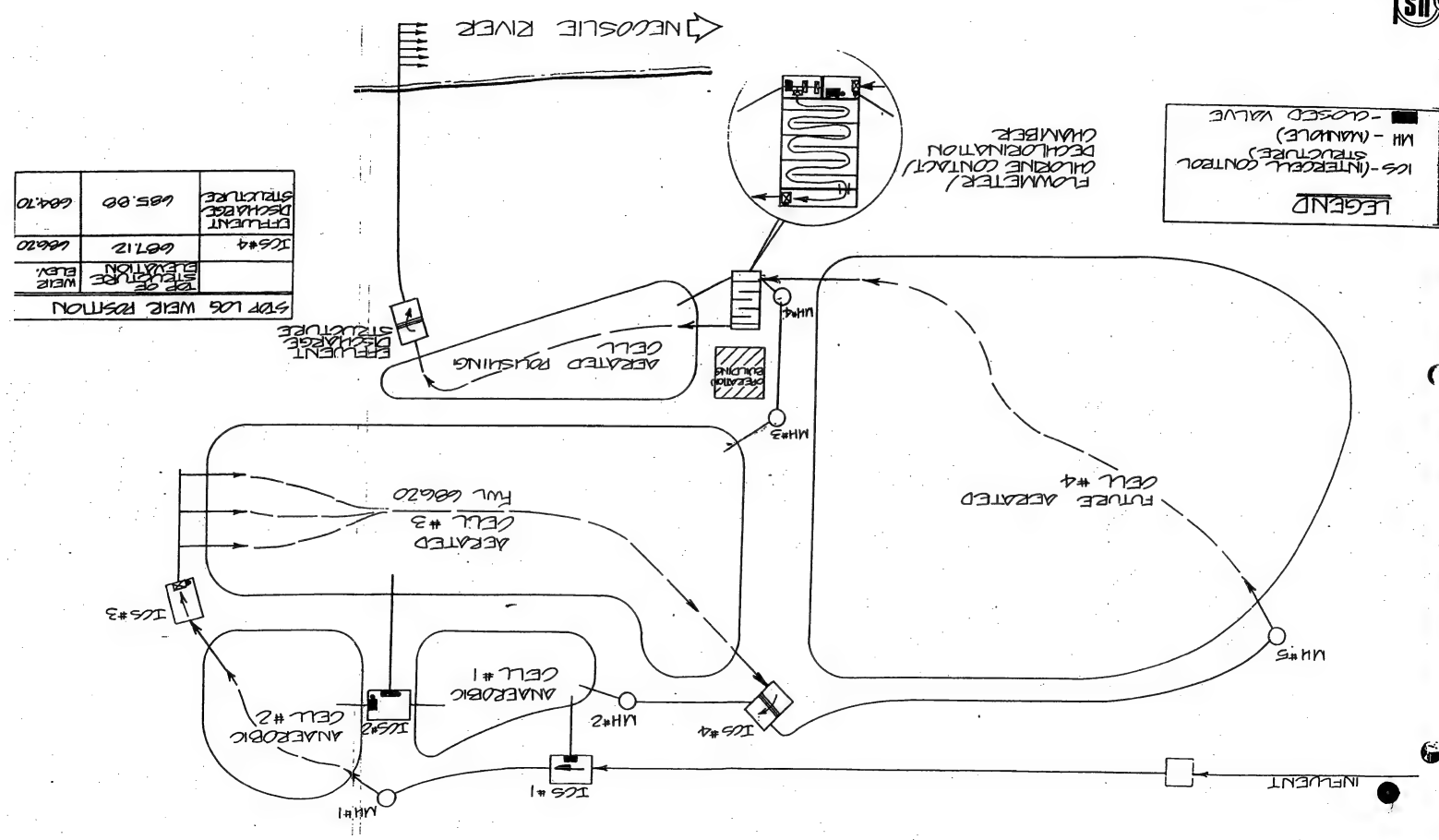
STOP LOG WEIR POSITION		
	TOP OF STRUCTURE ELEVATION	WEIR ELEV.
ICS#4	687.12	686.20
EFFLUENT DISCHARGE STRUCTURE	685.00	684.70

US
urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

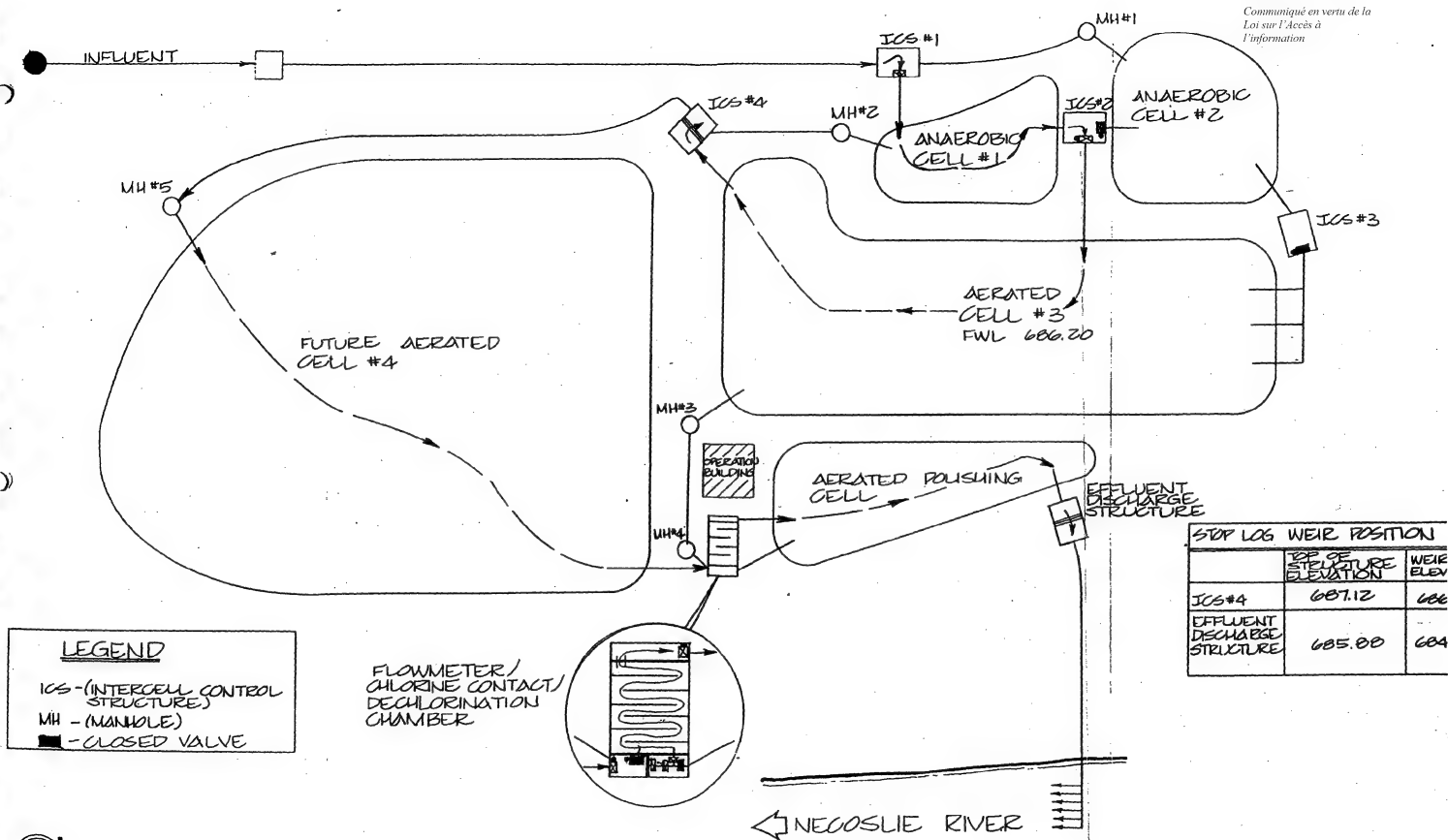
**NORMAL
OPERATION
FIGURE #2-**



FIGURE #3 -
 BYPASS CELL #1

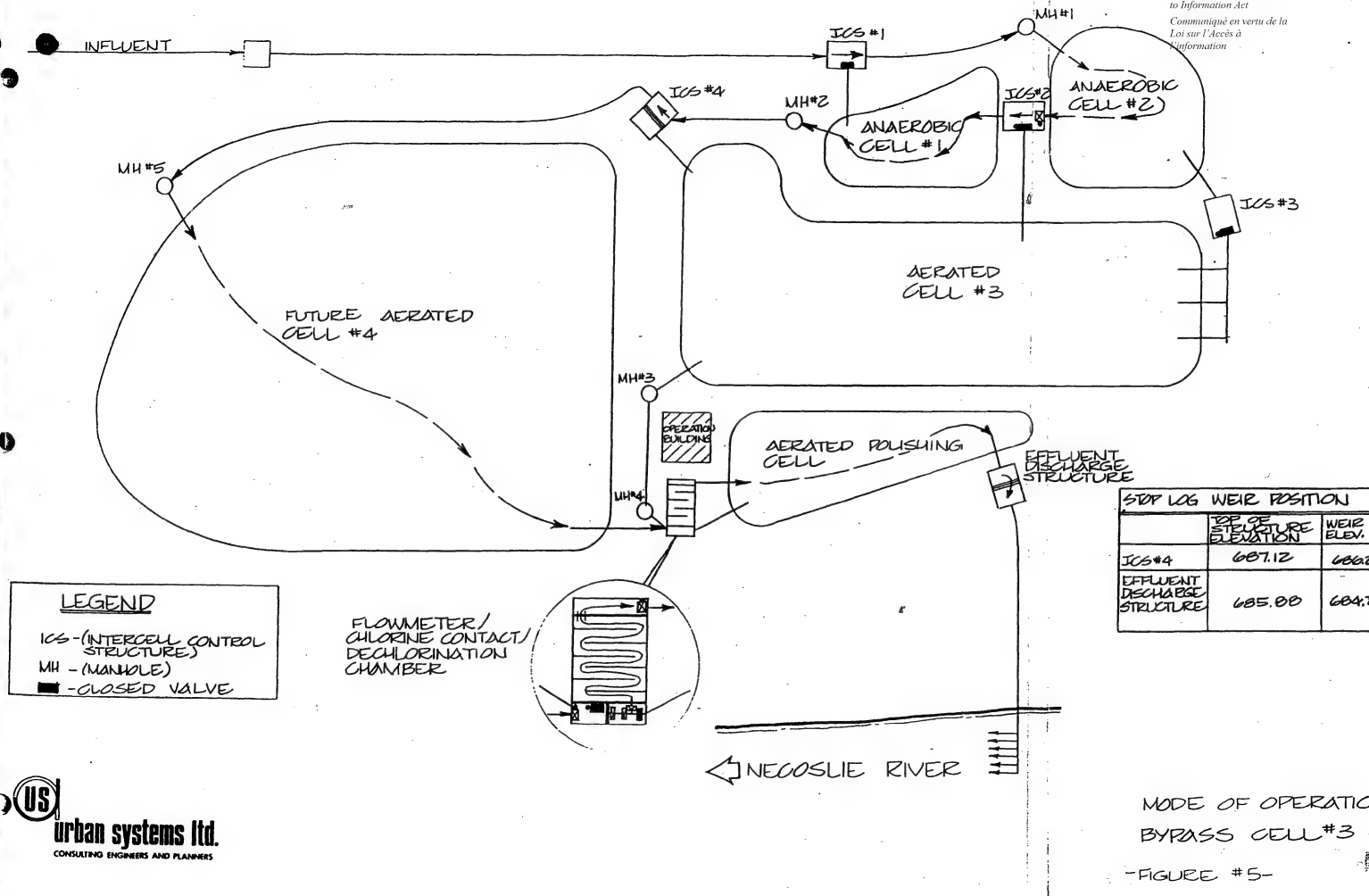


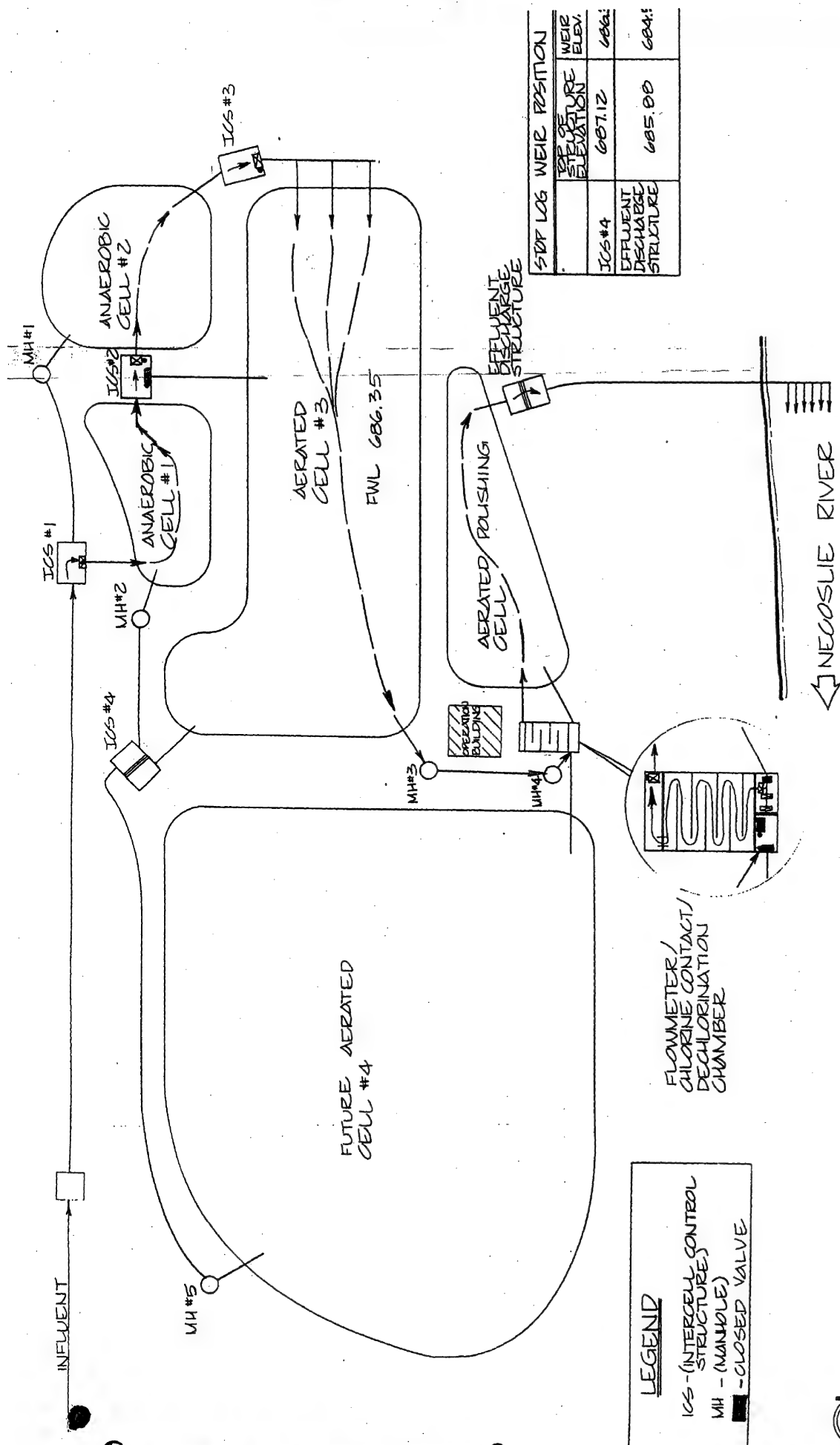
EFFLUENT STRUCTURE	665.00	604.70
EFFLUENT STRUCTURE	667.12	606.20
STOP LOG WEIR POSITION	667.12	606.20
EFFLUENT STRUCTURE	667.12	606.20



US
urban systems ltd.
CONSULTING ENGINEERS AND PLANNERS

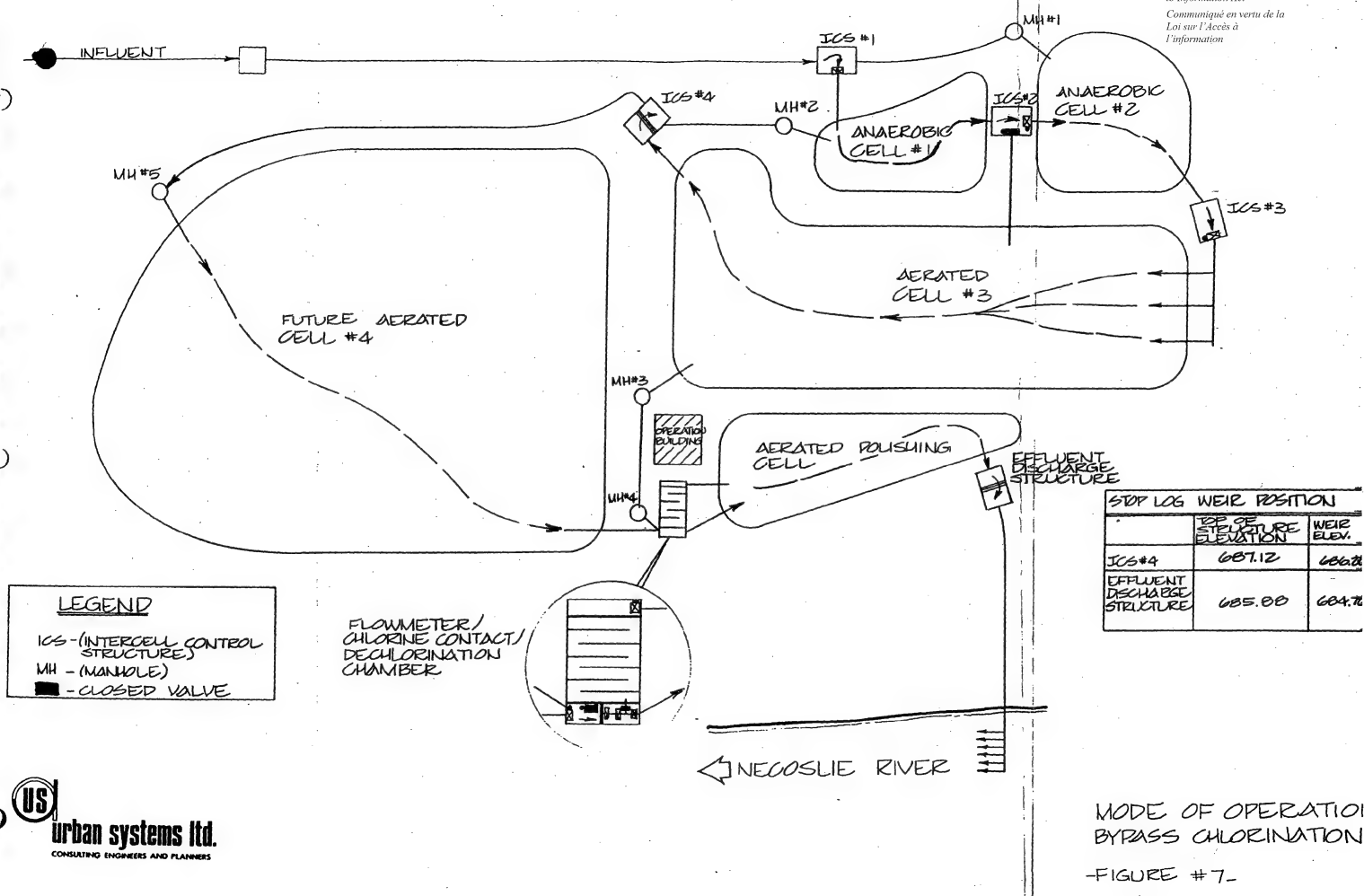
BYPASS CELL #7
-FIGURE # 4-





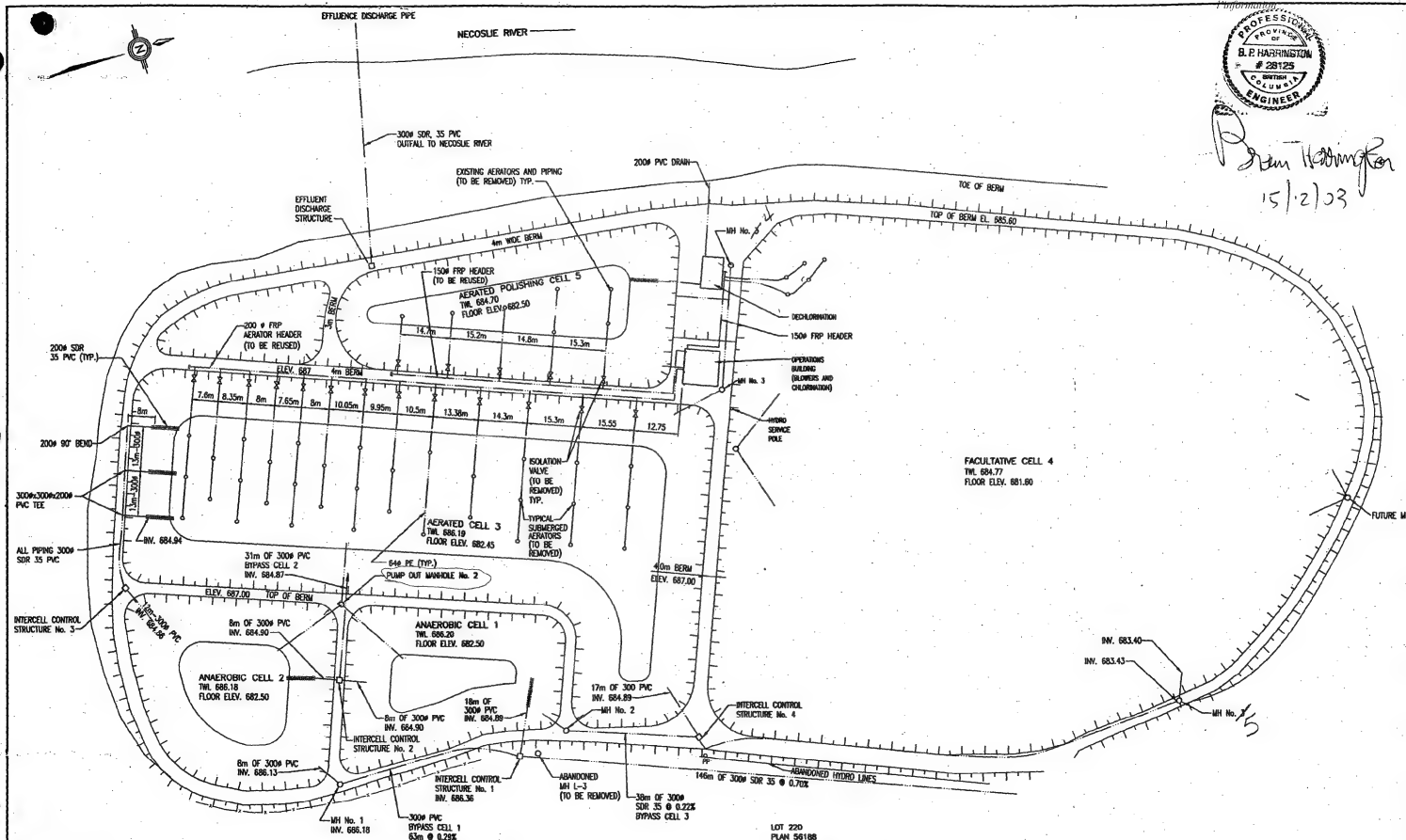
MODE OF OPERATION
BYPASS CELL #4

- FIGURE # 6 -





B.P. Harrington
15/2/03

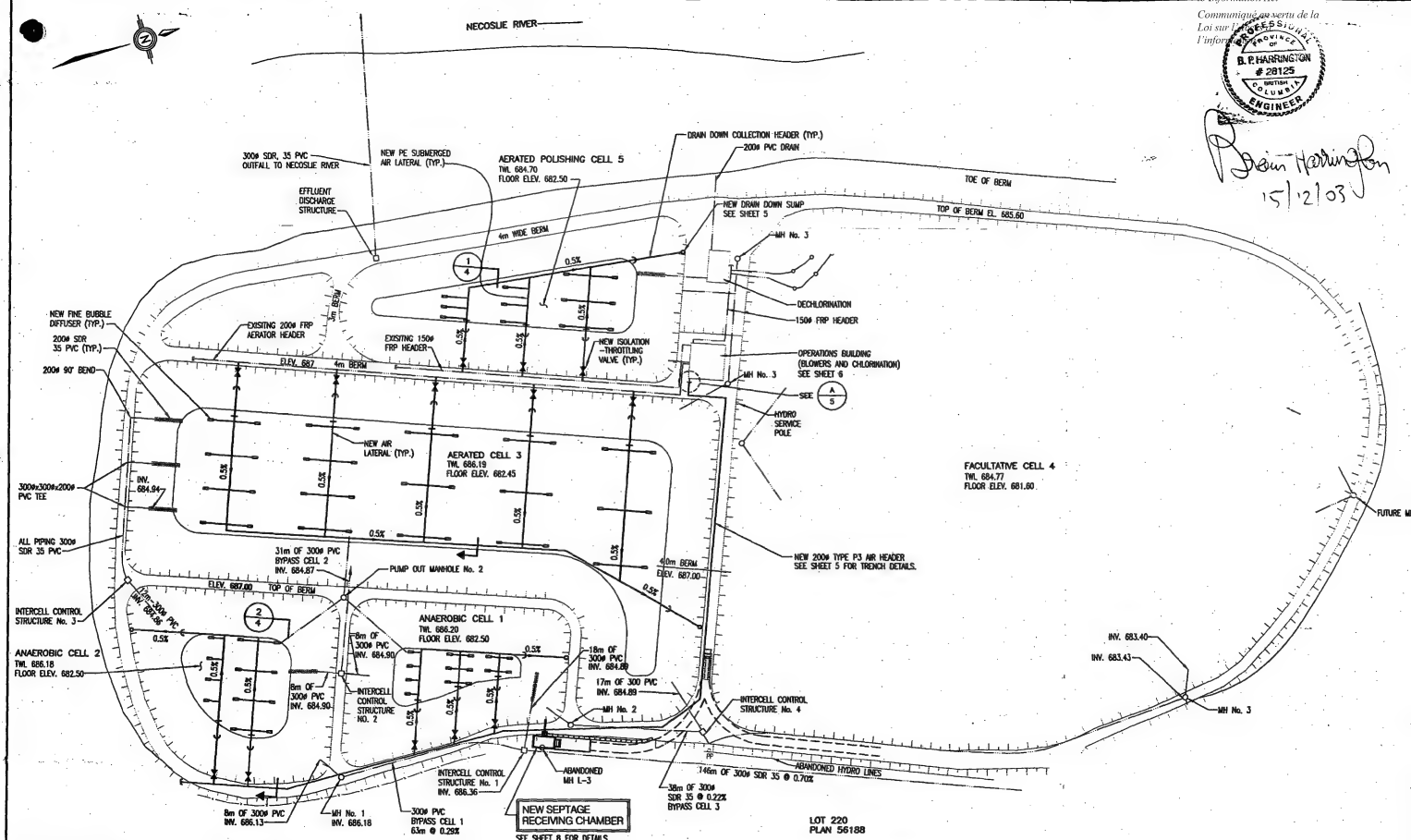


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ISSUED FOR TENDER				DATE: 15/2/03				CHECKED: C.K.				ISSUED: JUN 13, 2003				SHEET 1 OF 13			
												FORT ST. JAMES AERATED LAGOON UPGRADE				THIS DRAWING REDUCED TO HALF SIZE			
												SITE PLAN - EXISTING FACILITY							

Communiqué en vertu de la
Loi sur l'accès à l'information



B. Harrington
15/12/03

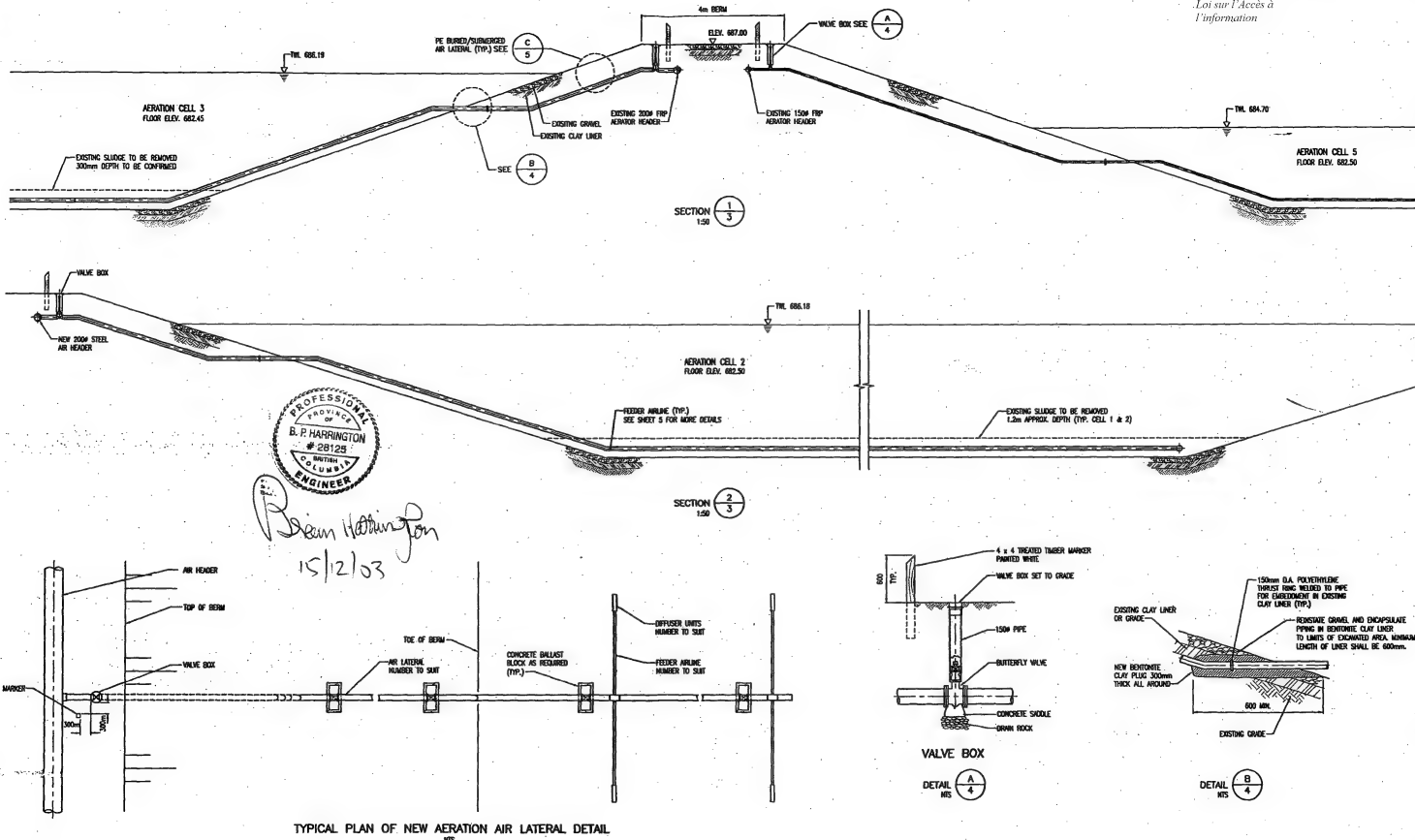


REVISIONS					DESIGN					PROJECT INFORMATION				
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2	12/11/03	J.M.	B.H.	J.B.	2	12/11/03	J.M.	B.H.	J.B.	ISSUED FOR TENDER				

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CONSULTING ENGINEERS
ISSUED: JUN 13, 2003

NAKAZDI BAND
FORT ST. JAMES AERATED LAGOON UPGRADE
SITE PLAN - LAGOON UPGRADE

SCALE: 1:500
DRAWING No. 044
SHEET 13 OF 13
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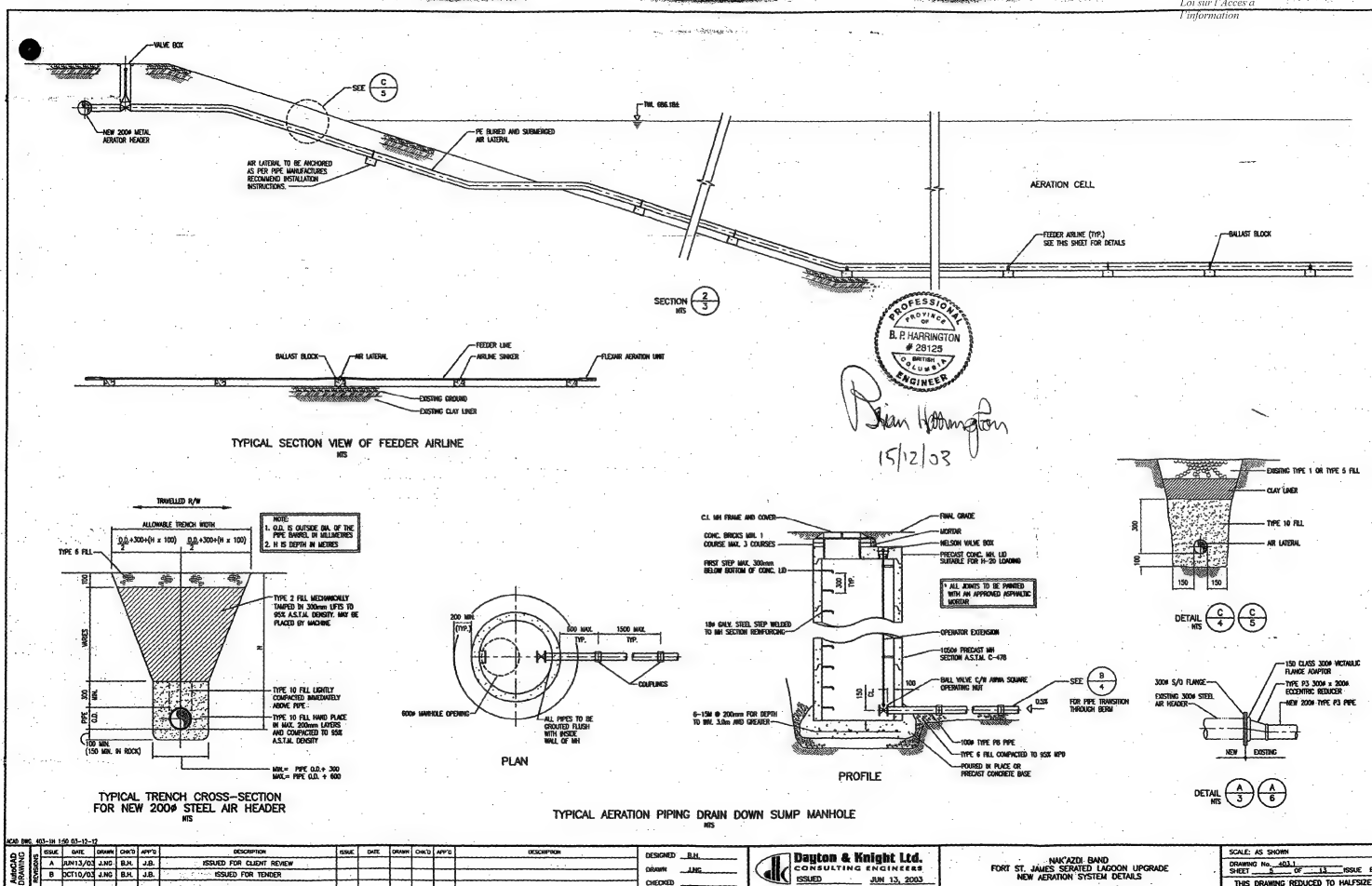
PROFESSIONAL
 B. P. HARRINGTON
 #28128
 ENGINEER
 15/2/03

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A	16/11/02	J.M.C.	B.H.	J.B.	ISSUED FOR CLIENT REVIEW												
B	25/10/02	J.M.C.	B.H.	J.B.	ISSUED FOR TENDER												

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 13, 2003

NAKAZZI BAND
 FORT ST. JAMES AERATED LAGOON UPGRADE
 NEW AERATION SYSTEM DETAILS

SCALE: AS SHOWN
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 SHEET 4 OF 13
 ISSUE B



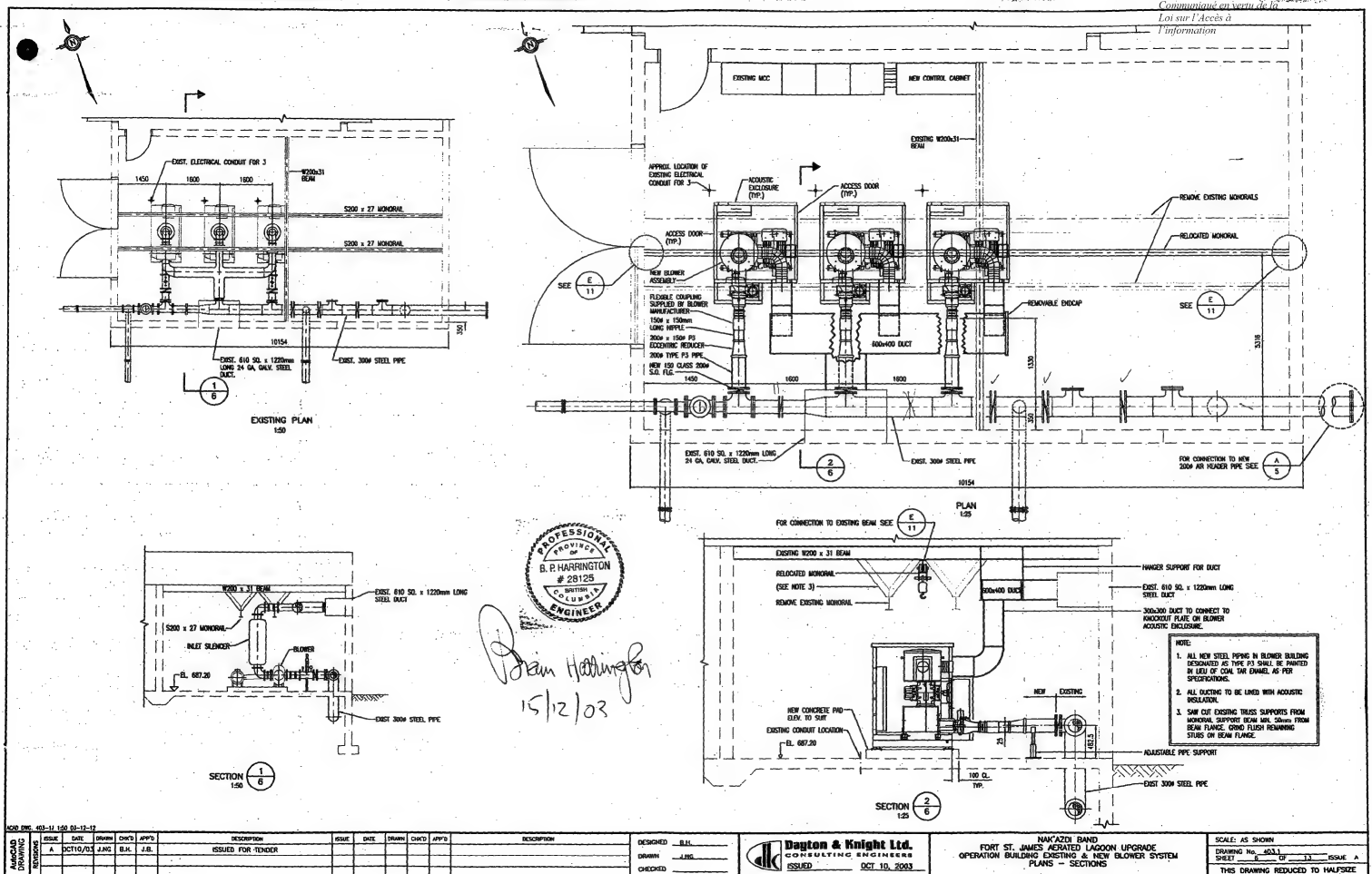
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A	JAN 13/02	J.M.	J.B.	ISSUED FOR CLIENT REVIEW								
B	OCT 10/02	J.M.	J.B.	ISSUED FOR TENDER								

DESIGNED: J.M.
DRAWN: J.M.
CHECKED: J.M.

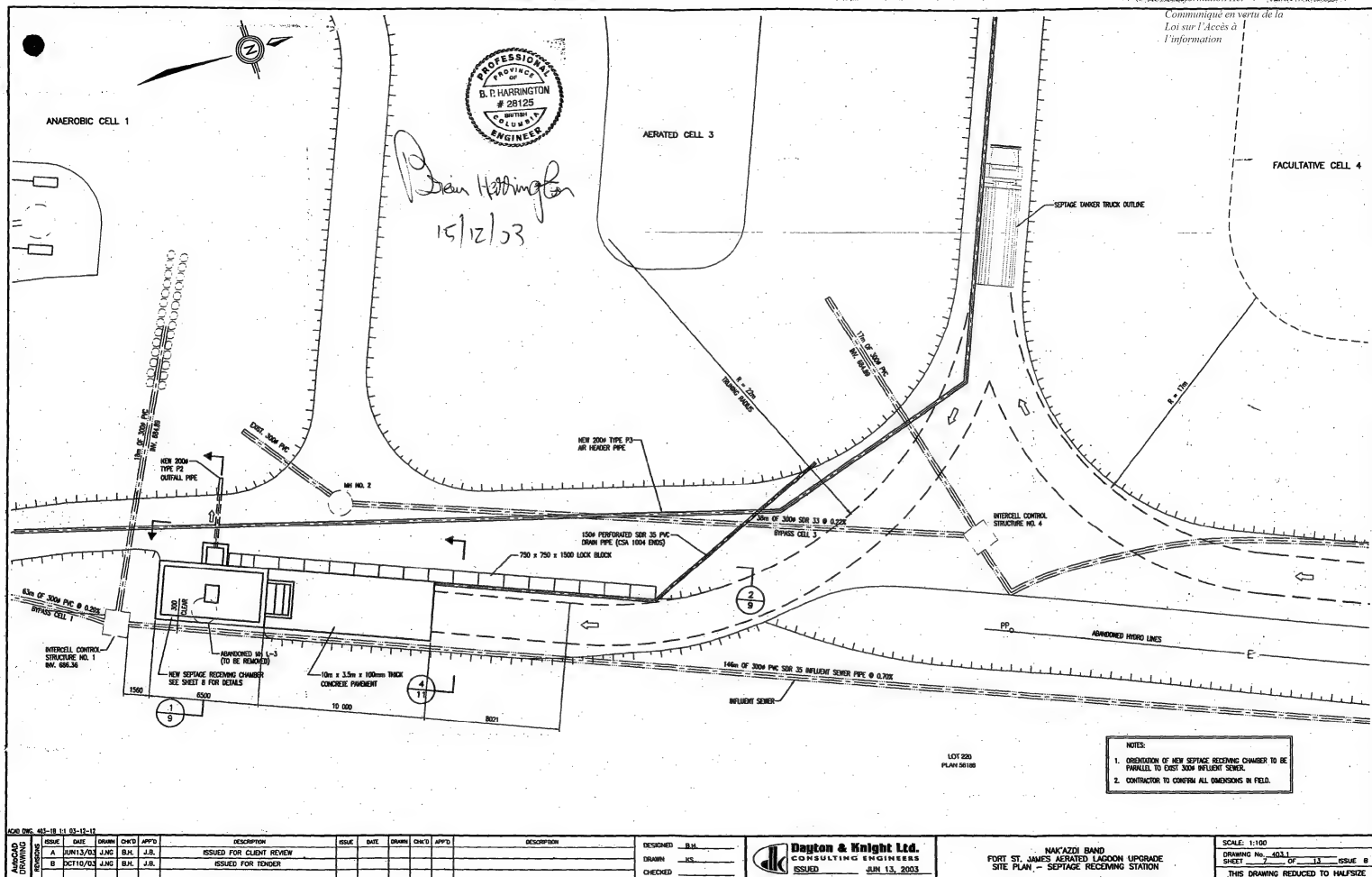
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ISSUED: JUN 13, 2003

NAKAZO BAND
PORT ST. JAMES SEWAGE LAGOON UPGRADE
NEW AERATION SYSTEM DETAILS

SCALE: AS SHOWN
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SHEET 13 OF 13
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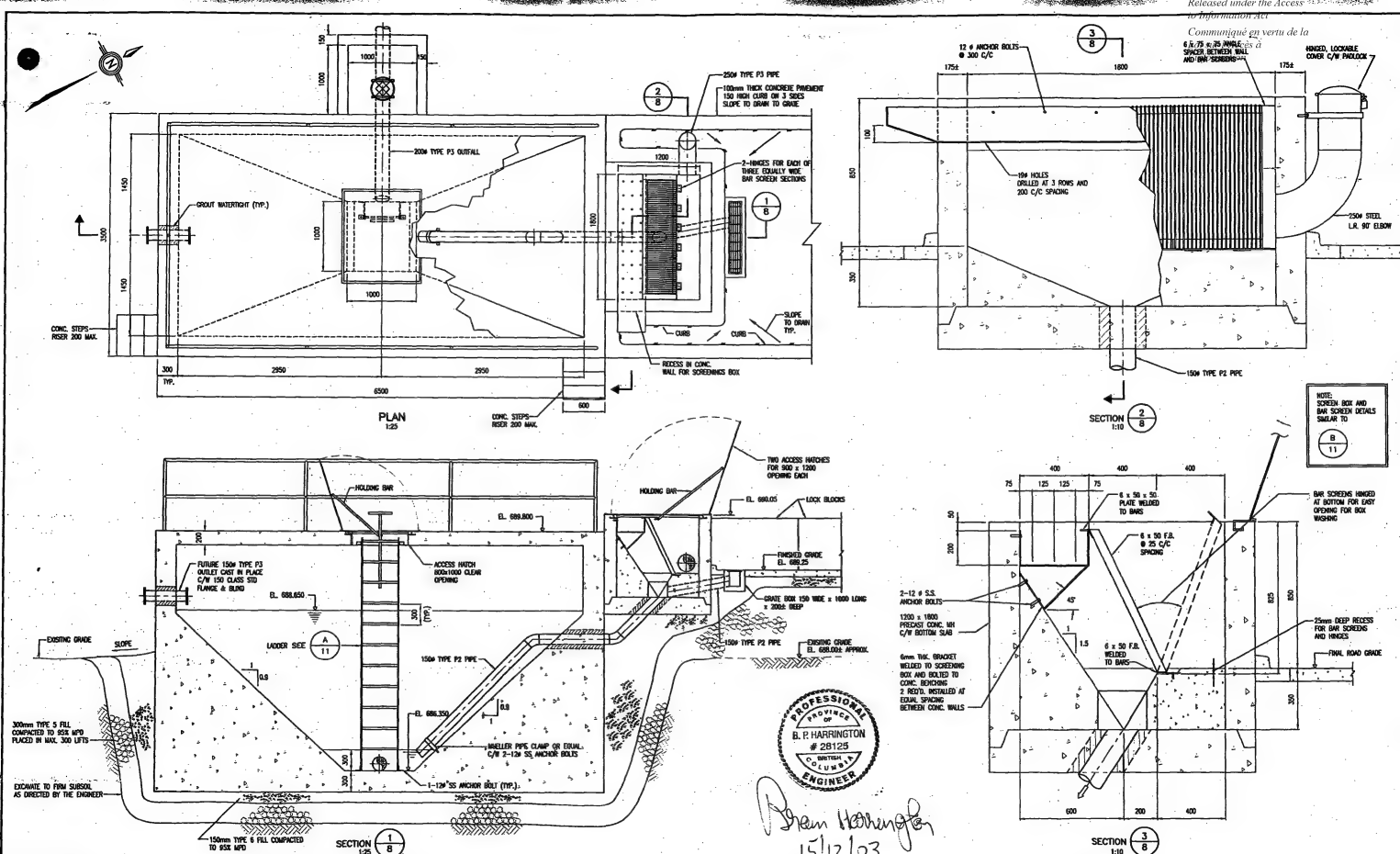
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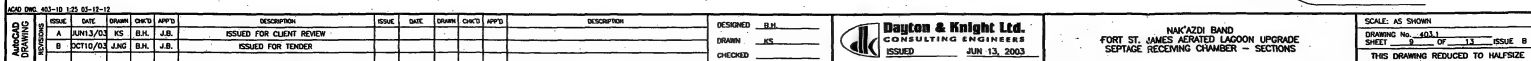
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FORT ST. JAMES AERATED LAGOON UPGRADE
SITE PLAN - SEPTAGE RECEIVING STATION

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SHEET 7 OF 13
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2	15/12/03	J.M.C.	B.H.	J.B.	ISSUED FOR TENDER						

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FORT ST. JAMES AERATED LAGOON UPGRADE
SEPTAGE RECEIVING CHAMBER - PLAN & SECTIONS
SCALE: AS SHOWN
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SHEET 1 OF 14
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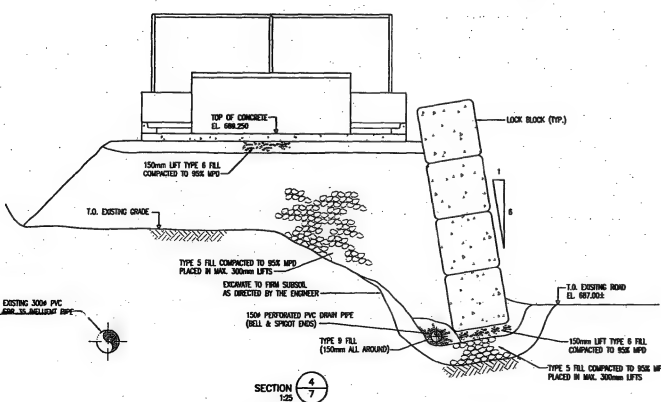
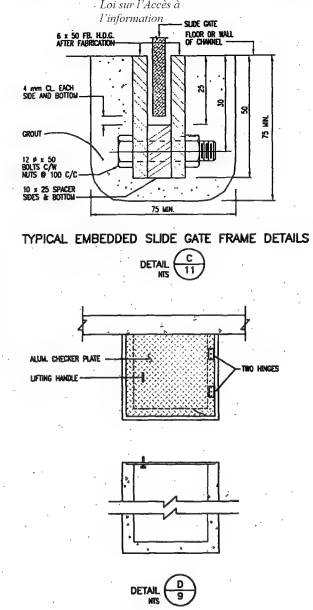
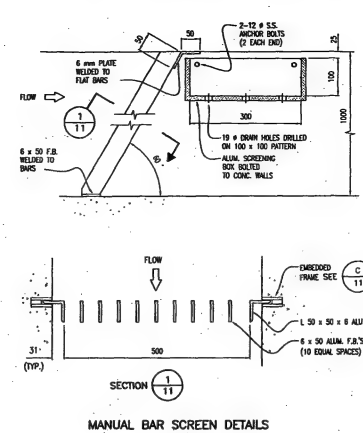
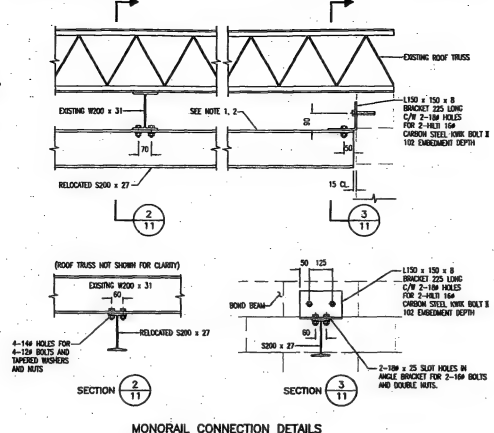
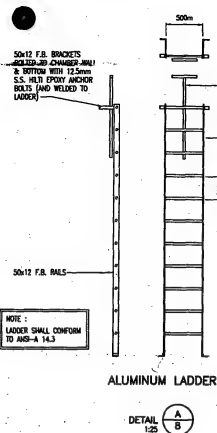




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NAK'AZDI BAND
FORT ST. JAMES AERATED LAGOON UPGRADE
SEPTAGE RECEIVING CHAMBER - REINFORCING PLAN & SECTION

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DRAWING No. 403
SHEET 15 OF 13 ISSUE A
THIS DRAWING HAS BEEN
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DATE 13/06/03
BY J.M.G. J.B.



PROFESSIONAL
ENGINEER
B.P. HARRINGTON
#28125
15/12/03

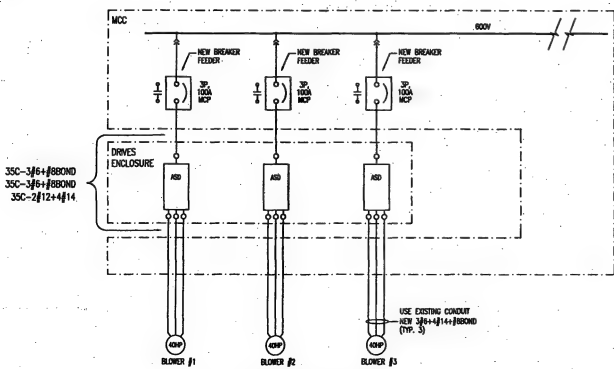
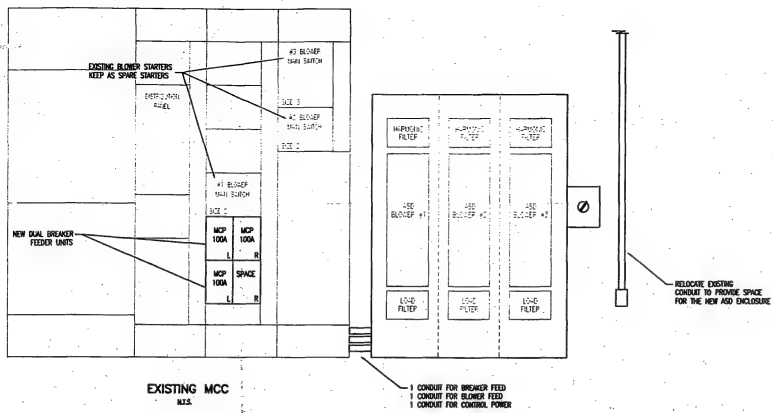
- NOTES:
- EXISTING MONORAIL BEAM TO BE INSTALLED WITH FLANGE HAVING EXISTING BOLT HOLES FACING UP.
 - RELOCATED MONORAIL BEAM TO BE PAINTED AS PER SPECIFICATIONS. DATE MONORAIL LONG 300 mm. SHALL BE STENCILED ON MONORAIL IN 100mm HIGH LETTERS.

CADD FILE: 402-11-125 03-12-12																									
A B C	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	DESIGNED	J.H.		Dayton & Knight Ltd. CONSULTING ENGINEERS	JUN 13, 2003	NA'AZIIN BAND FORT ST. JAMES AERATED LAGOON UPGRADE SEPTAGE TREATING CHAMBER MECHANICAL DETAILS	SCALE: AS SHOWN DRAWING NO. 402-11-125 SHEET 11 OF 13 THIS DRAWING REDUCED TO HALFSIZE						
	REVISED																								
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	B	MCT10/12	J.M.	B.H.	J.B.	ISSUED FOR TENDER																			

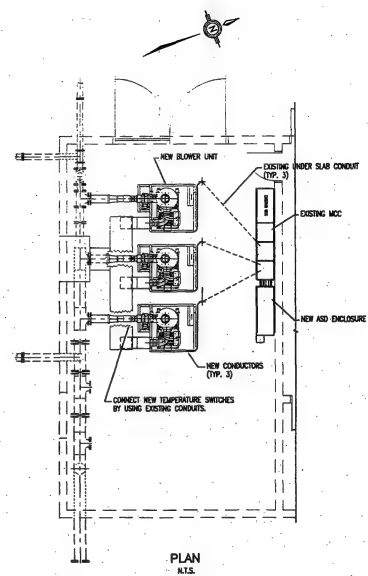
Dayton & Knight Ltd.
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ISSUED JAN 15, 2003

NAKAZI BAND
FORT ST. JAMES AERATED LAGOON UPGRADE
SEPTAGE RECEIVING CHAMBER
MISCELLANEOUS DETAILS

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ISSUE B
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PARTIAL SINGLE LINE DIAGRAM



PLAN
N.T.S.



PROJECT NO. 4311-11 03-12-17					DESCRIPTION					DESIGNED					<div style="display: flex; align-items: center; justify-content: center;"> <div> DAYTON & KNIGHT LTD. Consulting Engineers 10000 100th Ave. S. Suite 100 Richmond, BC V6V 1K2 Tel: 604-273-8888 Fax: 604-273-8889 Email: info@daytonandknight.com </div> </div>					SCALE: N.T.S.				
ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	ISSUE	DATE	DRAWN	CHK'D	APP'D	DESCRIPTION	DESIGNED	DATE	DRAWN						CHK'D	APP'D	DESCRIPTION		
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 Richmond, BC V6V 1K2
 Tel: 604-273-8888
 Fax: 604-273-8889
 Email: info@daytonandknight.com

PROJECT NO. 4311-11 03-12-17

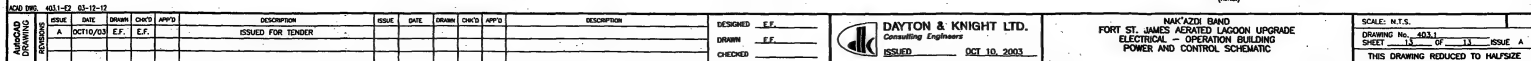
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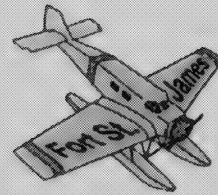
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SHEET 1 OF 1

ISSUE A







NAK'AZDI BAND

**DISTRICT OF FORT
ST. JAMES**

UPGRADE OF THE EXISTING SEWAGE LAGOON

CONTRACT NO. 403.1

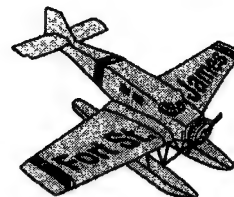
DECEMBER 2003

**NAK'AZDI BAND
DISTRICT OF FORT ST. JAMES
389 Stuart Drive West
Fort St. James, B.C.
V0J 1P0**

**DAYTON & KNIGHT LTD.
Consulting Engineers
612 Clyde Avenue
West Vancouver, B.C.
V7T 1C9**



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING OPERATIONS & MAINTENANCE MANUAL

"DRAFT"

FEBRUARY 2006

**DAYTON & KNIGHT LTD.
Consulting Engineers**

LIMITATIONS AND DISCLOSURE

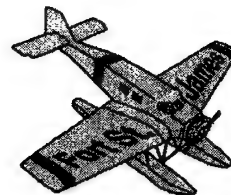
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NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADE
OPERATIONS AND MAINTENANCE MANUAL**

TABLE OF CONTENTS

1.0 GENERAL

- 1.1 Introduction
- 1.2 General Description
- 1.3 Design Capacity
- 1.4 Permit Effluent Criteria

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- 2.2 Aeration System
- 2.3 Inter-Cell Control Structures
- 2.4 Flowmeter, Chlorination and De-chlorination
- 2.5 Operations Building
 - 2.5.1 Aeration System
 - 2.5.2 Chlorination System
 - 2.5.3 Dechlorination System
- 2.6 Septage Receiving Chamber

3.0 SAFETY PROCEDURES

4.0 OPERATION AND MAINTENANCE SCHEDULE

APPENDICES

- A Emergency Contacts List
- B MSDS Documents
- C Chlorine Safe Work Practices



Dayton & Knight Ltd.
CONSULTING ENGINEERS



NAK'AZDLI BAND



DISTRICT OF FORT ST. JAMES

**SEWAGE TREATMENT LAGOON UPGRADE
OPERATIONS AND MAINTENANCE MANUAL**

APPENDIX C

Chlorine Safe Work Practices

Chlorine Safe Work Practices



WorkSafe

About the WCB

Preventing on-the-job injury and disease is the first priority of the Workers' Compensation Board (WCB) of British Columbia. WCB officers inspect worksites in B.C. to make sure they comply with the Occupational Health and Safety Regulation, which sets out minimum workplace standards for health and safety. The WCB also investigates serious workplace accidents and consults with employers, supervisors, and workers to promote health and safety in the workplace.

Under the requirements of the *Workers Compensation Act*, a worker must report an injury or a disabling occupational disease as soon as possible to the employer. The employer must report work-related injuries, occupational diseases, and work-related deaths to the WCB within three days. A worker may not make an agreement with the employer to give up WCB benefits.

If a worker suffers a work-related injury or illness, the WCB provides fair compensation that may include medical costs, loss of earnings, physical rehabilitation, and pensions. The WCB also works with employers to help injured workers return to work. If a worker is killed on the job, counselling and financial help are made available to the victim's family. For more information on requirements or eligibility for WCB coverage, contact the WCB office nearest you.

WCB Prevention Information Line

The WCB Prevention Information Line can answer your questions about workplace health and safety, worker and employer responsibilities, and reporting a workplace accident or incident. The Prevention Information Line accepts anonymous calls.

Phone 604 276-3100 in the Lower Mainland, or call 1 888 621-7233 (621-SAFE) toll-free in British Columbia.

To report after-hours and weekend accidents and emergencies, call 604 273-7711 in the Lower Mainland, or call 1 866 922-4357 (WCB-HELP) toll-free in British Columbia.

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Introduction

Chlorine is a powerful disinfectant and bleaching agent. In both gas and liquid forms, chlorine is a toxic substance that presents a number of hazards. If proper precautions are not taken while working with or around pure chlorine, serious injury or even death can result. In order to prevent injury, the WCB has developed the requirements detailed in the Occupational Health and Safety Regulation.

This manual is mainly for two groups: employers whose businesses include the use of chlorine gas for water or sewage treatment; and workers who work with or around chlorine gas, including those who repair or maintain chlorine systems. Employers will find information on what they need to do to comply with the Regulation and to ensure a safe environment both for workers and for communities around facilities in which chlorine is stored or used. Workers will find information that will help them work safely around chlorine.

Employers whose businesses include the use of chlorine gas for other purposes (for example, in plastics manufacturing) will also find this manual useful.

Engineers and architects will find information on building design for facilities in which chlorine is to be used or stored.

This manual does not replace the Occupational Health and Safety Regulation or the *Workers Compensation Act*. It complements the Regulation and is a tool to help industry work safely. The word *must* used in this manual means that a particular safety step is required by the Regulation. The word *should* indicates that a particular action, although not specified in the Regulation, will improve safety in the workplace. Please note also that the word *worker* includes supervisors, managers, and workers.

In addition to the information in this manual, you can get specific information from chlorine and chlorine-equipment manufacturers and suppliers. The Chlorine Institute has further information and publishes the *Chlorine Manual*. See their Web site at www.cl2.com or phone 703 741-5760.

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What is chlorine?

Pure chlorine comes in two forms: gas and liquid. Chlorine gas is easily liquefied under pressure. Typically, a commercial cylinder contains liquefied gas under pressure.

Chlorine gas has a disagreeable, sharp, pungent, penetrating odour. In airborne concentrations above 1000 parts per million (ppm) it has a greenish-yellow colour. In smaller concentrations it is colourless. Chlorine gas is $2\frac{1}{2}$ times heavier than air and tends to flow downhill and pool in lower areas. Wind and weather, however, will cause a chlorine gas cloud to disperse, spreading it in all directions, even uphill.

Liquid chlorine is a transparent, amber-coloured, oily fluid that is $1\frac{1}{2}$ times heavier than water. Liquid chlorine has a high compression ratio. The ratio of liquid to gas is 1 to 460, which means that 1 L of liquid chlorine expands to form 460 L of pure chlorine gas.

If all the liquid chlorine in a 68 kg (150 lb.) container escaped, it would release so much pure chlorine gas that it would take 24 times the amount of air in BC Place stadium to dilute the gas concentration to 0.5 ppm, the maximum allowable concentration a person can be exposed to in an eight-hour period.

Uses

Chlorine gas is mainly used as a disinfectant in:

- Swimming pools
- Water treatment plants
- Sewage treatment
- Community water supplies, including water used for irrigation

Chlorine is also used in:

- Pulp and paper industries
- Pool chemical products
- Cleaning products
- Mining processes
- Bleach manufacturing
- Plastics manufacturing

Hazards of chlorine

Health

Chlorine is corrosive. It can burn moist body surfaces such as the eyes, nose, throat, lungs, and wet skin because it forms harmful acids when it reacts with moisture.

Repeated exposure to chlorine does not produce an immunity or tolerance. Long-term exposure to low concentrations of chlorine may cause a gradual decrease in lung efficiency. A single exposure to a high concentration can cause the same effect.

Table 1: Toxic effects of chlorine

Chlorine concentration (parts per million)	Effect
0.03 – 0.1 ppm	Range of odour threshold (the Canadian Centre for Occupational Health and Safety specifies 0.08 ppm)
1 – 3 ppm	May cause mild irritation of the eyes, nose, and throat
3 – 5 ppm	Stinging or burning in eyes, nose, and throat; may cause headache, watering eyes, sneezing, coughing, breathing difficulty, bloody nose, and blood-tinged sputum
5 ppm or more	Severe irritation of the eyes, nose, and respiratory tract
14 – 25 ppm	May be fatal after 30 minutes of exposure
25 ppm or more	Immediate breathing difficulty resulting in pulmonary edema (fluid buildup in lungs), possibly causing suffocation and death
1000 ppm or more	Fatal after a few breaths

Note: Chlorine gas is not visible as a greenish-yellow cloud at concentrations below 1000 ppm.

Table 2: Exposure limits of chlorine

Exposure level (parts per million)	Exposure limit
0.5 ppm	Maximum allowable concentration averaged over an eight-hour period
1 ppm	Maximum allowable short-term exposure (15 minutes)
10 ppm or more	Immediately Dangerous to Life and Health (as published by NIOSH)

Note: The Immediately Dangerous to Life and Health (IDLH) exposure level is the point at which a person without appropriate respiratory protection could be fatally injured or could suffer irreversible or incapacitating health effects. NIOSH is the National Institute for Occupational Safety and Health in the United States.

Fire

Chlorine will not burn by itself, but will support combustion.

Chemical action

Chlorine, in both gas and liquid forms, reacts with almost all chemicals, usually with a release of heat. At high temperatures, chlorine reacts vigorously with most metals. For instance, a chlorine reaction can cause stainless steel to catch fire or melt.

Some water treatment facilities use *chloramination*, a process in which chlorine and ammonia are mixed in a water solution. Chloramination is safe because chlorine and ammonia mixed in a water solution do not present a serious risk. The process may form chloramines, which are toxic, but only at concentrations higher than for chlorine gas. Pure chlorine gas, however, may react vigorously with ammonia gas. An excessive mix of the two gases in air can produce hazardous compounds such as the explosive nitrogen trichloride. In facilities that use chloramination, the pure chlorine and ammonia must be stored in separate, sealed rooms or buildings.

Chlorine leaks are usually confirmed using a standard *ammonia test*. This test is safe because it uses ammonium hydroxide (ammonia dissolved in water or moist air) rather than pure ammonia. Chlorine reacts readily with ammonium hydroxide to form ammonium chloride, a relatively harmless compound. This reaction forms a white cloud, indicating a chlorine leak. The continuous monitors now required indicate chlorine leaks automatically, but the ammonia test is still useful for pinpointing the exact location of a leak.

Corrosive action

Chlorine reacts with water or moisture in the air to form highly corrosive acids. Every precaution must be taken to keep chlorine and chlorine equipment moisture-free. Never use water on a chlorine leak.

Employer responsibilities

According to the Occupational Health and Safety Regulation, employers must develop and implement an effective health and safety program, which includes training workers and supervisors in relevant sections of the program.

Health and safety programs

A health and safety program helps ensure a safe, productive workplace by describing specific tasks and responsibilities for many different aspects of an employer's operation. An effective health and safety program for any workplace in which chlorine is used or stored must include the following:

- A written occupational health and safety policy that:
 - ~ States the employer's commitment to health and safety
 - ~ States the program's objectives
 - ~ Defines the responsibilities and roles of the employer, supervisors, and workers
- Written safe work procedures and emergency response procedures
- Training and instruction for supervisors and workers
- Regular worksite inspections (the definition of *regular* depends on the conditions and number of shifts for each individual worksite)
- Regular health and safety meetings
- Incident investigations
- Records and statistics (for example, reports of inspections and incident investigations)
- A joint health and safety committee or representative, if required

It is important to remember that every worksite is different. Although these general elements may be common to health and safety programs across the province, employers cannot expect to copy a program from another worksite. Instead, they must develop and implement a health and safety program unique to their own operation.

Written safe work procedures

A health and safety program is an overall program that describes, in writing, a number of individual written safe work procedures and specific, smaller programs. Written safe work procedures and programs tell workers how to perform their duties safely. Employers must ensure that all workers understand these procedures well enough to perform their duties competently. Employers and workers must jointly review all written safe work and emergency procedures at least once a year.

WHMIS program

A Workplace Hazardous Materials Information System (WHMIS) program helps ensure that workers who work with or near chlorine are instructed in its safe use, storage, handling, and disposal. This includes the use of labels or other means of identifying chlorine containers or systems. For more information, see Part 5 of the Regulation.

Exposure control plan

Written exposure control plans explain the work procedures and other controls that will be used to reduce workers' risk of exposure to chlorine. Strict adherence to chlorine exposure limits and use of appropriate respiratory and skin protection are essential elements of such a plan. Employers must also ensure that qualified persons perform a formal risk assessment to determine which workers may be affected by exposure to chlorine and the extent of any exposure. For more information about the elements of exposure control plans, see Section 5.54 of the Regulation.

For more detailed information on preventing exposure (through building design, ventilation, and alarm systems) and controlling exposure (using eye, skin, and respiratory protection), see "Preventing and Controlling Exposure," pages 25–32.

Respiratory protection program (personal protective equipment)

Providing protective equipment and ensuring that workers use it properly are essential to any effective occupational health and safety program. Employers must develop and implement a written respiratory protection program that is acceptable to the WCB and that meets the requirements of the Regulation. For more information on personal protective equipment and clothing, see Part 8 of the Regulation.

Employers must ensure that workers are trained in proper use and care of respirators. Employers must also provide fit-testing (using a WCB-accepted protocol, such as described in the WCB publication *Breathe Safer* or in *CSA Standard Z94.4-93* or *Z94.4-02*) when a worker is first fitted with a respirator and once a year thereafter. Fit-test kits are available from respirator suppliers. One type of test, the qualitative fit-test, determines if the worker can detect any amount of a test compound leaking through the respirator. Employers must keep records of these tests and the fit-test program.

Respiratory, eye, and skin protection are covered in more detail in "Personal Protective Equipment," pages 29–32. You can also find more information on respiratory protection programs in other WCB publications, such as the *Breathe Safer* manual.

Written emergency procedures

Employers must conduct a risk assessment and prepare emergency procedures, including escape and evacuation, drills, and notification of emergency services. For

more information on written emergency procedures, see "Preparing for Emergencies," pages 16-18.

Written preventive maintenance procedures

Employers, in consultation with equipment manufacturers or suppliers, must ensure that all equipment is inspected regularly and replaced when necessary. Employers must ensure that written preventive maintenance procedures *and* written emergency procedures are readily available to and understood by all workers required to work on the chlorine system.

Employers must also include plans for testing and replacing, where required, all ancillary (secondary) safety equipment, including:

- Alarm systems
- Detection equipment
- Radios
- Eye washes and showers
- Respiratory and skin protection
- First aid kits
- Chlorine container repair kits

To ensure that nothing is missed, employers may find it useful to develop checklists for inspecting and testing equipment. All use and maintenance of safety equipment must be recorded in a suitable log book. For more information on preventive maintenance and hazards that can arise during repair or maintenance, see "Repair and Maintenance," page 22.

Checking on a worker working alone

Employers must establish a system with written procedures to ensure the continued well-being of workers entering a chlorine enclosure on their own or working in isolation. Depending on the situation, the check system may consist of either visual checks, radio contact, or a telephone call-in procedure. The check system must include:

- A set interval between checks
- A record of each check
- A check at the end of the work shift
- Procedures to follow if the worker cannot be contacted or is injured

Safe handling of chlorine: Where to look in the Regulation

Employers can use several elements of their health and safety program to help ensure the safe handling of chlorine. For the purposes of this manual, these key elements (and their location in the Regulation) include:

- Emergency preparedness and response (Part 4, sections 4.13 – 4.18)
- Emergency procedures (Part 5, sections 5.97 – 5.102; Part 6, section 6.120)
- Equipment preventive maintenance and critical parts inspections (Part 4, section 4.3, and Part 6, section 6.132).
- WHMIS (Part 5, sections 5.3 – 5.19)
- Exposure control plan (Part 5, section 5.54)
- Respiratory protection programs (Part 8, sections 8.5 and 8.32 – 8.44)
- Eye protection (Part 8, section 8.14)
- First aid requirements (Part 33)

Training, instruction, and supervision

Although workers may have special certification or other external training, employers are responsible for providing them with thorough, site-specific training and continued instruction in the programs and procedures outlined above. Written safe work procedures must form the basis of an employer's ongoing training program.

Employers must document training and instruction. Workers must be able to demonstrate competency in doing their work according to the work procedures. For more information and examples, see the next section, "Written Safe Work Procedures — Examples."

Hazard alert: Cylinder moved while valve open

A worker was painting the walls of the pumphouse chlorine room in a water treatment plant. He decided to move a 150 lb. cylinder of chlorine away from the wall to paint behind it. He inadvertently disconnected the cylinder while the valve was in the full open position. The worker, who was not wearing a respirator, was overcome by chlorine gas and was hospitalized with severe respiratory injuries. A large number of people in the surrounding area were evacuated and some were treated in hospital.

Written safe work procedures — examples

Some tasks that require written safe work procedures include (but are not limited to):

- Cylinder change
- Leak detection and control
- Container repair and use of the repair kit
- Checking on a worker working alone
- Respirator program
- Disposal of damaged containers
- Routine maintenance of equipment (for example, chlorinators, piping, and steam heating systems)

Written safe work procedures must be detailed and complete, and must not assume the worker will know or remember any unlisted tasks. Two examples below demonstrate the amount of detail required. **These examples will not apply to all worksites.**

Employers must create their own detailed written safe work procedures to suit each individual worksite.

Example one: Changing chlorine cylinders

This work procedure should specify that only competent workers can change cylinders and how many of these workers should be present.

The following example of a safe work procedure for changing cylinders is for a non-emergency situation, when the alarm has not been activated. (If the alarm has been activated, workers would follow the emergency procedures posted in the workplace.)

1. Turn on the light and visually ensure that the room is safe to enter (there may be visible signs of damage).
2. Put on appropriate personal protective equipment (be specific about the type of equipment). This procedure requires a respirator other than an escape respirator.
3. Turn on the exhaust ventilation before entering the room.
4. Close the main chlorine container valve.
5. Allow the system to purge itself of chlorine. Ensure that the float drops to the bottom of the feed-rate indicator (rotameter). Verify that there is a high vacuum and that the weigh scale reads zero.
6. Loosen the chlorinator (auxiliary valve or vacuum regulator) and remove it from the empty cylinder.
7. Replace the cylinder cap on the empty chlorine cylinder and remove the cylinder to secured storage.
8. Secure the new cylinder into place.

9. Remove the protective hood from the new cylinder.
10. Ensure that there is no chlorine leaking from the packing gland. Use ammonia vapour from the ammonia test bottle, which contains a strong ammonia solution (25% or 26° Baumé).
11. Ensure that the cylinder valve is closed. **Do not** open the valve yet.
12. Remove the cylinder outlet cap and check that the cylinder outlet face is clean and smooth.
13. Using a new washer, connect the vacuum regulator or the yoke assembly (be specific for the system in use) to the valve outlet using the supplied wrench only.
Note: Never use oil-based material or water to clean the mating surfaces.
14. Crack open the chlorine cylinder valve and then quickly close it again. This will let enough chlorine into the lines to charge them. The valve should open with no more than a sharp rap from the heel of your hand. **Never** use a "helper" wrench or a larger wrench than the one supplied. If the valve will not open, carefully loosen the packing gland slightly.
15. Check all the connections you have made to ensure there are no leaks. Use the vapour from the ammonia test bottle (see step 10). If a leak is indicated, activate the leak control procedure (see example two below).
16. When no leaks are indicated, open the chlorine cylinder valve no more than half a turn and leave the cylinder wrench on the valve.
17. Open any additional system valves (be specific for your facility) and test for leaks as each stage is charged with chlorine.
18. Check for leaks again with the ammonia test bottle to be sure that everything is in order.
19. Ensure that the alarm system is functioning.
20. Turn off the exhaust ventilation and lights and close the door when you leave.
21. Remove your respirator and other personal protective equipment.

Example two: Leak detection and control

This example includes two components: what to do if a leak is indicated after a cylinder change and what to do if the chlorine alarm is activated during routine operation of the system.

If the ammonia test indicates a leak after a cylinder change, follow these steps. Note that the worker will already be wearing a respirator:

1. Immediately close the main cylinder valve.
2. As long as the monitor reads less than 10 ppm, the cylinder hookup procedure may be repeated. (See Table 4 on page 31 for information on choosing the right respirator.)
3. Open (and close) the main cylinder valve and repeat the ammonia test.

4. If a leak is still indicated, make a third and final attempt to get a good seal using a new lead washer.
5. If the leak cannot be corrected after three attempts, remove the cylinder from service and contact the supplier. Ensure that there is no leak from this cylinder with the main valve closed. A different cylinder must be connected to the chlorination system.
6. Leave the chlorine room and remain nearby to restrict access to the room or provide other assistance, as directed, until the chlorine alarm has automatically shut off.

If the chlorine alarm has been activated during routine operation of the system, at least two people must respond. Follow these steps:

1. Approach the location cautiously.
2. If chlorine gas can be smelled in the open, immediately leave the area and activate full emergency procedures. Do not attempt to turn on the exhaust ventilation.*
3. If there is no smell of chlorine gas outside the room, put on respiratory protection (see Table 4, page 31) and check the monitor readout.
4. If the chlorine concentration is less than 10 ppm:
 - Put on the appropriate personal protective equipment.
 - Enter the room and close the main cylinder valve.
 - Turn on the ventilation system and leave the area until the alarm stops.
 - While still wearing the respirator, enter the room after the alarm has stopped, isolate the leak, and perform necessary repairs. Remember that all chlorine lines must be free of oil, grease, and moisture before re-opening the chlorine cylinder.
5. If the continuous monitor indicates a chlorine concentration greater than 10 ppm, immediately leave the area and activate full emergency procedures. Do not turn on the ventilation system* and do not wait downwind of the building for help to arrive.

* Depending on the location. See "Ventilation," page 26.

Note: Never apply water to a chlorine leak. Moist chlorine is more corrosive than dry chlorine and the leak will worsen rapidly if water is applied to it. Remember also that a chlorine leak never gets better — it always gets worse.

Preparing for emergencies

Preparing for emergencies includes planning for chlorine leaks that may require procedures such as evacuation and notification of local emergency response units. The preparation required for these types of emergencies is detailed under "Written Emergency Procedures," below. Preparing for emergencies also includes making appropriate emergency equipment available to workers and ensuring that they know how to use it.

Written emergency procedures

Formal written emergency procedures provide workers with detailed directions in case of an emergency. A detailed emergency plan is not enough by itself, however. Employers must also conduct emergency drills to determine whether the procedures work in practice and to familiarize workers with their roles in an actual emergency. Employers must keep records of these drills to monitor efficiency.

Hazard alert: Proper emergency procedures allow quick response

A chlorinator developed a serious leak, filling the chlorine room with a high concentration of chlorine gas. This triggered the alarm system, and the emergency team responded within minutes. After checking through the view window and seeing a concentration of chlorine gas in the room large enough to cause a visible green haze, the trained emergency team, wearing SCBAs, entered the room and shut the system down. Because this sewage treatment plant is in an isolated area, the escaped gas was automatically vented to the atmosphere and repairs were made shortly thereafter.

Written emergency procedures must include specific details concerning the following:

- How to notify workers of the emergency location
- How to control materials that may become dangerous during the emergency
- Emergency personal protective equipment and its location
- Chlorine repair kit location
- Repair or capping procedure
- Emergency lighting
- Evacuation procedure and a check system to ensure all personnel are evacuated
- Search and rescue
- How to notify police, fire department, hospital, and other emergency response units
- How to notify adjacent worksites and private homes of the emergency situation

As soon as the written emergency procedures are created, the employer must:

- Provide each worker with a copy of the plan and enough training to ensure that workers clearly understand the procedures
- Post the procedures and other relevant information (such as telephone numbers) in appropriate, conspicuous locations
- Hold regular tests of the procedures, including drills
- Notify the fire department and other emergency response units of any specialized information
- Provide nearby worksites and private homes that could be affected in an emergency with information about the nature of the hazard and a copy of appropriate emergency procedures

In addition to these general emergency procedures, employers must also have specific procedures to cover concerns such as:

- Response to an alarm signal
- Leak control
- First aid response
- Dispersal of leaked chlorine
- Disposal of a leaking container
- Incident investigation

For more information on emergency planning, see *CSA Standard Z731-95 (R1999), Emergency Planning for Industry*.

Emergency equipment

This section includes information on eye wash and shower facilities, first aid kits, and container repair kits.

Eye wash and shower facilities

Sections 5.85 to 5.96 of the Regulation describe requirements for emergency washing facilities. Employers must conduct a risk assessment for each workplace hazard. In the Regulation, use Table 5-2: Risk Assessment to help determine risk levels relating to hazardous materials, including chlorine. Use Table 5-3: Provision and Location of Emergency Washing Equipment to help determine the type of eye wash equipment required, where it must be located, and whether or not a shower is required.

Employers must consider the following when conducting a risk assessment:

- The nature of the workplace chemical (corrosive or irritant). In pool facilities, many of the chemicals are corrosive—for example, chlorine gas, sodium hypochlorite, soda ash, and hydrochloric (muriatic) acid.
- The state of the substance (gas, liquid, or solid).
- The potential for exposure to skin or eyes and the extent of any exposure.
- The number of potentially affected workers.
- The availability of first aid and professional medical help.

Employers must follow these requirements for eye wash and shower facilities:

- Ensure that the facilities have a supply of tempered water — not running cold water. Ensure that workers cannot mistakenly turn on hot water alone.
- Determine the most appropriate location for emergency equipment. It is inappropriate, for example, to install emergency equipment inside the chlorine room because a worker trying to use the emergency equipment during a chlorine leak risks further exposure.
- Take into account the geographical location of the facility when deciding whether or not an outdoor location will be practicable during the winter.
- Do not locate emergency equipment where the public may access and possibly damage it.

First aid kits

Workers must have immediate access to an appropriate first aid kit at each chlorine location. First aid kits may be permanent on-site kits or may be transported to the site by the worker for each visit. In some instances, the first aid kit may need to be located in the worker's vehicle and carried by the worker to the chlorine location. To determine the appropriate first aid kit required for a particular worksite, see Part 33 of the Regulation.

Container repair kits

Ideally, a chlorine container repair kit should be available on-site. If a container repair kit is not available, the emergency response team must be aware of the nearest readily available kit. There are three types of repair kit (A, B, and C), each with materials specific to the type and size of the chlorine container.

Table 3: Chlorine container repair kit requirements

Chlorine container	Repair kit
68 kg (150 lb.) cylinders	"A" kit
907 kg (2000 lb., or ton) containers	"B" kit
rail cars, tank cars, or barges	"C" kit

Investigating incidents

Incident investigation is important for preventing future incidents and educating workers and employers. According to the *Workers Compensation Act*, employers must immediately notify the WCB Prevention Division of any major release of a toxic substance. In the case of chlorine, a major release is defined as:

- A leak or spill resulting in at least one person receiving professional medical attention
or
- A leak or spill resulting in at least three people receiving first aid

Any time enough chlorine is released to set off the alarm, the employer must conduct a formal investigation to discover the causes of the incident. This investigation must also examine measures that will prevent similar incidents in the future. Employers must forward copies of the investigation report to their joint health and safety committee and to the WCB Prevention Division.

What is an incident?

The Occupational Health and Safety Regulation defines an *incident* as "an accident or other occurrence which resulted in or had the potential for causing an injury or occupational disease."

Working safely around chlorine

This section should be useful to anyone who works with or around chlorine. It includes information on chlorine containers, storing chlorine, handling chlorine, repair and maintenance of chlorine systems, and recognizing hazards that may arise during repair or maintenance.

Personal protective equipment — particularly eye, skin, and respiratory protection — is essential to working safely around chlorine. For more information, see "Personal Protective Equipment," pages 29–32.

Containers

Liquid chlorine comes in two types of containers:

- Cylinders with a 68 kg (150 lb.) capacity
- Ton containers with a 907 kg (2000 lb.) capacity

Cylinders and ton containers have fusible plugs designed to melt at 71°C (160°F). When containers are exposed to extreme heat, such as fire, the plug melts, relieving pressure and preventing the container from rupturing violently.

Notes:

1. All chlorine containers must meet Transport Canada requirements.
2. Chlorine is classified as a controlled product under the WHMIS regulations, Classes A, C, D-1A, and E.

Storing chlorine

This section describes what you must and must not do when storing chlorine.

Location

- Use signs to clearly identify all areas where chlorine is used or stored. Only qualified personnel are permitted to enter these areas.
- Store chlorine cylinders and containers in a cool, dry, and relatively isolated area, protected from weather and extreme temperatures. If storing cylinders and containers outside, shield them from direct sunlight, unless they are specifically designed for unshaded, outdoor storage.

Note: Never apply heat to pipes, containers, or container valves unless they have been thoroughly purged of chlorine.

- When storing chlorine containers inside, store the containers in a well-ventilated building, away from any heat sources, such as steam pipes.

- Store chlorine containers on the lowest working level but not below grade.
- Do not store chlorine near busy roadways or anywhere else where vehicles operate. Chlorine reacts with carbon monoxide to produce phosgene, an extremely poisonous gas.
- Store cylinders upright and secure them against falling. Cylinders will discharge vapour when upright and discharge liquid when upside-down.
- Store ton containers on their sides, on steel or concrete supports. The supports should be equipped with trunnion wheels so that, if chlorine leaks from the bottom valve, the container can be quickly rotated with the leak at the top to minimize leakage. Discharge ton containers while they are horizontal, with the two valves in a vertical line (vapour from the top valve, liquid from the bottom).

Housekeeping

- Do not store materials that may react violently with chlorine in the same room as chlorine (for example, hydrogen, ammonia, acetylene fuel gases, ether, turpentine, and most hydrocarbons, such as solvents, greases or oils, finely divided metals, and organic matter).
- Store containers with enough room between them to allow for complete accessibility during an emergency.
- Use cylinders and containers on a "first-in, first-out" basis.
- Clearly tag or mark empty cylinders and separate them from full cylinders.
Note: Never assume a container is empty and therefore non-hazardous even though it may weigh empty.

Handling chlorine

This section describes what you must and must not do when handling chlorine.

Moving containers

- Handle containers with care while moving or storing them. Do not allow containers to strike objects and do not drop containers.
- Do not use slings or magnetic devices to move chlorine containers.
- Use new gaskets as recommended by the chlorine supplier each time a cylinder or container is connected.
- Follow the chlorine supplier's recommended disposal procedures for leaking containers.
- Do not modify, alter, or repair containers and valves. Only the supplier should carry out these tasks.

Valves

- Ensure that cylinders have valve protection hoods in place when not connected to a system.
- Do not lift a cylinder by its valve protection hood. The hood is not designed to carry the weight of a cylinder.
- If possible, open valves by applying a steady force to a 200 mm (8 in.) wrench, without applying an impact force and without using an extension on the wrench. If this does not work, apply a light impact force by smacking the wrench with the heel of your hand.
- Do not use a wrench longer than 200 mm (8 in.) to open or close valves. Do not use tools such as pipe wrenches or hammers. This will help prevent valve damage that could cause leaks. Valves on cylinders and ton containers are designed to deliver full volume after one complete counterclockwise turn. Valves may be damaged if turned beyond this point. Immediately return containers with damaged or inoperable (but not leaking) valves to the supplier.
- If the valve is very difficult to open, loosen the packing nut slightly. Tighten the packing nut after the valve is opened or closed.

Repair and maintenance

Employers are responsible for providing written preventive maintenance procedures and written emergency procedures to any person who works on a chlorine system. Workers should be familiar with these procedures before carrying out repairs or maintenance on the chlorine system.

Qualified workers must supervise the cleaning and repairing of chlorine systems. Workers must be familiar with all the hazards and the safeguards necessary to perform the work safely.

The chlorine system must be shut off before cleaning or repairing it, and all piping and other equipment must be thoroughly purged with dry air or nitrogen. Vacuum systems can be purged by drawing the remaining chlorine into the process. Do not weld any part of a chlorine system until it has been purged with dry air or nitrogen.

After repair or maintenance work and before using the system, the pressurized part of the chlorine system must be pressurized to 150 psi with dry air or nitrogen and tested for leaks by applying soap solution to the outside of joints. Once detectable leaks are repaired, the system must be retested.

Hazard recognition

When repairing or maintaining a chlorine system, taking proper precautions will help avoid a number of hazards. Written procedures for the repair or maintenance of chlorine systems must consider the following hazards and include procedures that will help workers avoid these hazards.

Moisture

Chlorine reacts with moisture to form corrosive acids. Every precaution must be taken to keep chlorine and chlorine equipment free of moisture, including the following steps:

- Close pipes, lines, valves, and containers tightly when not in use to keep moisture out of the system.
- Avoid contact between chlorine and any residual material that drips from the equipment when pipes or lines are being dismantled before repair.
- Dry pipes and lines before use by purging with dry air (air that has a dew point of at least -40°C) or nitrogen.

Hazard alert: Moisture causes chlorine to rupture steel pipe

There was enough moisture in a chlorine line for the chlorine to react with the mild steel pipe. The pipe ruptured, releasing over 45 kg (100 lb.) of chlorine. The entire delivery pipe was replaced with schedule 80 carbon steel to prevent a recurrence.

Foreign material

Pipes, lines, and fittings must have all cutting oils, grease, and other foreign material removed from them before use. Trichloroethylene or other recommended chlorinated solvents may be used; however, follow Regulation requirements and take special precautions because these solvents can produce serious health effects. Never use hydrocarbon or alcohol solvents for cleaning because they can react vigorously with chlorine.

The following may be used as a lubricating pipe dope for threaded joints:

- Linseed oil with graphite or white lead
- Freshly mixed glycerine and litharge
- Teflon tape

A number of available commercial products may also be used. If Teflon tape is used, all remnants must be removed before joints are remade.

Heat

Because iron and steel will ignite in chlorine at about 230°C (450 – 500°F), all welding or burning must only be done after the chlorine equipment is completely emptied and purged with dry air or nitrogen.

Preventing and controlling exposure

Engineering and administrative controls are the first line of defence against exposure to chlorine. Proper building design and ventilation are important engineering considerations. Alarm systems are also essential in preventing chlorine exposure.

Personal protective equipment is the last line of defence. It is vital in controlling exposure when a chlorine leak has occurred or there is a possibility of such a leak. Personal protective equipment includes eye, skin, and respiratory protection. It also includes emergency equipment such as eye wash and shower facilities and first aid kits.

Engineering controls (building design)

This section is intended mainly for engineers and architects. It outlines specific design and ventilation requirements and guidelines for chlorine systems and storage facilities.

Chlorine enclosure

Consider the following points when designing a chlorine system or storage facility:

- Shipping containers and equipment containing chlorine should be located indoors in a suitable, fire-resistant building. If a separate building is not provided, containers and equipment must be located in a separate enclosure with fire-resistant floors and walls. If possible, chlorine containers should be housed in a room separate from the area where the chlorination equipment is located.
- Chlorine storage enclosures must be designed so that chlorine containers and equipment are located at the lowest level. Sub-surface locations should be avoided. During any new construction, work areas should not be located below the chlorine system.
- Storage rooms with floor areas larger than 60 square metres (200 sq. ft.) must have two or more exit doors to ensure accessible escape routes.
- All exit doors must open outwards and must be fitted with *panic hardware* (a crash bar for easy exit).
- Doors should not be self-locking.
- Each room or building housing chlorine containers or equipment should have a viewing window at least 30 cm (12 in.) square or larger that will provide a clear view of the container and distribution system.
- All openings in chlorination rooms (for example, in walls or ceilings) must be tightly sealed, including electrical conduits.
- Chlorine containers and equipment must not be overheated if heating is provided to prevent freezing, to reduce humidity, or simply for comfort.
- All piping carrying chlorine gas or liquid must be identified according to WHMIS requirements.

For more specific detail, refer to the:

- *Chlorine Manual* (available from the Chlorine Institute, phone 703 741-5760, Web site www.cl2.com)
- Swimming Pool, Spray Pool and Wading Pool Regulations (B.C. *Health Act*)
- British Columbia Building Code
- Municipal building bylaws
- Chlorine manufacturer or supplier

Ventilation

A suitable fan, providing at least 15 air changes per hour, must ventilate the chlorine storage room. Regulations concerning swimming pools, spray pools, and wading pools require at least 30 air changes per hour in the chlorinator room. All ventilation fans must include switches outside the chlorine room or building, even when an inside switch is installed.

Because chlorine gas is much heavier than air and tends to collect at floor level, ventilation fan suction must be located at or near floor level. Air inlets must be located to provide cross-ventilation using outside air.

Chlorine must not be discharged into areas where it may cause damage or injury, such as schools, worksites, private homes, or shopping centres. Ventilation exhaust must not be positioned where it can be captured by the air intake system of the same or another building.

Automatic or remote shut-down device

For the application of section 6.126(1) from Part 6 of the Regulation, please call your local WCB Prevention office to discuss this with an occupational hygiene officer or check the Health and Safety Centre of the WCB Web site for a forthcoming guideline on this section.

Hazard alert: Poorly positioned exhaust results in near-disaster

Chlorine gas leaking from a faulty valve connection resulted in evacuation of a swimming pool. The leaked gas was discharged outside the building near the air intake for a shopping centre. Only the strong breeze prevented large quantities of the chlorine from contaminating the shopping centre.

During emergency leaks, the ventilation system must be shut down until an operator can confirm that it is safe to exhaust gas from the contaminated area. Automatic ventilation must not be triggered when the discharge may affect access to the worksite, adjacent worksites, or private homes.

Administrative controls

Administrative controls include alarm systems and hand-held chlorine detection systems (detector tubes).

Alarm systems

In case of a chlorine leak or emergency, all facilities must have a working alarm that can be heard and seen by workers. A continuous (24-hour) chlorine monitor must be connected to the alarm system. The continuous monitor checks chlorine concentrations in the air and the alarm responds if chlorine concentrations reach a certain pre-set level.

Hazard alert: No alarm system results in near-disaster

A leak in the delivery line from a ton container released 45 – 227 kg (100 – 500 lb.) of chlorine into a storage room. The chlorine passed through a pipeline into a nearby creek and was carried through town. Because there was no alarm system and the chlorine facility is several kilometres from the town, the leak went unnoticed until someone saw dead fish in the creek. If the leak had not occurred during spring runoff, a very serious situation would have developed. Alarm systems have since been installed in each station to prevent a recurrence.

There are several commercially available automatic chlorine alarm systems. They fall into two basic categories: chemical reaction cell and solid state. Each type has advantages and disadvantages. Before buying an alarm system, consider its:

- Reliability
- Accuracy
- Response speed
- Calibration and system drift
- Operating temperature range
- Service and maintenance
- System testing

Some systems will provide a direct readout of chlorine concentration, while others may provide more than one alarm level. Equipment suppliers and other users can provide more information.

Basic alarm system requirements

- The system must be installed according to the manufacturer's instructions. Routine maintenance procedures and tests must follow a strict timetable, and records must be kept.
- Qualified workers must test and calibrate the system using the manufacturer's instructions. Systems must be tested for proper operation at least monthly and calibrated at least annually. Systems must also be tested and calibrated after any significant exposure. See the manufacturer's instructions to determine what a significant exposure is.
- Workers must know the *alarm level* (the chlorine concentration that triggers the alarm). This information must be clearly posted outside the building.
- The pre-set alarm level must be at or below 0.5 ppm. Alarm response procedures must account for minor leaks — action is required at concentrations above 0.25 ppm — that may not require the services of an emergency response team.
- The system must include a visible and audible alarm at the chlorine location, preferably connected to a radio or telephone system to alert the operator in case of emergency.
- In most circumstances the chlorine alarm system will turn off any activated ventilation system. Circumstances in some remote locations, however, allow for exhaust ventilation to be triggered automatically.

Detector tubes

Several hand-held chlorine detection systems are available. These systems use detector tubes to give a direct reading of the chlorine concentration.

Workers must be properly trained in detector tube use and maintenance. Unused detector tubes should be discarded after two years (refrigerated) shelf life. The pump must be checked before each use, using an unopened detector tube. When taking measurements to determine the extent and severity of a leak outside the enclosure, workers must wear appropriate respiratory protection. (See Table 4, page 31.)

Personal protective equipment

Controlling exposure requires strict attention to chlorine exposure limits. Appropriate eye, skin, and respiratory protection are essential. Workers must be familiar with and understand the requirements of their employer's written exposure control program.

Eye protection

When chlorine gas is in the air, safety glasses and face shields will not protect the eyes. Workers in an area that contains a chlorine concentration that may irritate the eyes (for example, greater than 0.5 ppm) must wear eye protection with a tight seal around the eyes or face to prevent chlorine gas entering the eyes. At this concentration, eye protection will be worn with the required respiratory protection (see Table 4 on page 31).

Skin protection

Emergency response workers who are controlling a serious chlorine leak must have access to full-body protective suits.

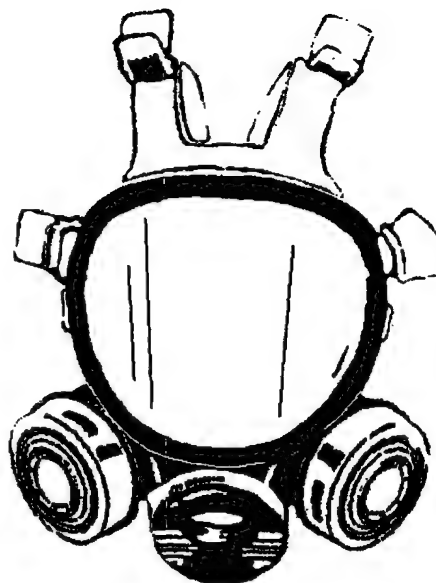
Respiratory protection

This section outlines the types of respirators available to protect workers from exposure to chlorine and the limitations of each respirator. Respirator choices must be based on the needs of each individual worksite and the requirements of the employer's written safe work procedures.

Workers required to use a respirator must be clean-shaven where the respirator seals with the face to ensure a proper fit.

Full-facepiece respirator with cartridges

A worker must wear a full-facepiece respirator fitted with acid gas cartridges during any hazardous work where there is a chance of a chlorine leak. Full-facepiece respirators are also appropriate for leak control where tests show the chlorine concentration to be less than 10 ppm (IDLH level).



A full-facepiece respirator with cartridges

Hazard alert: Poorly fitting respirator results in chlorine inhalation

A leak could not be controlled immediately. The operator, who has a beard, put on an SCBA and entered the contaminated area to shut down the system. The operator's beard prevented his respirator from sealing properly, and he immediately had difficulties due to chlorine inhalation. He was helped from the area and transported to hospital.

Full-facepiece respirator with canister

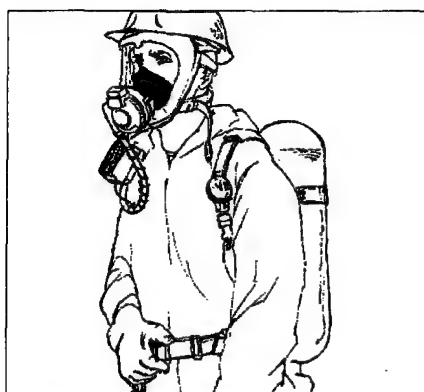
Although cartridges are preferable, a worker may use a full-facepiece respirator fitted with an air-purifying canister for leak control and repair or maintenance procedures in chlorine concentrations less than 10 ppm.

Notes:

1. When a worker is repairing a leak, cartridges or canisters can only be worn when the chlorine concentration is known. See Table 4 on page 31 for information on choosing the right respirator.
2. Canisters with an indicator window must be replaced when the material in the window has changed colour. Canisters without an indicator window must be replaced after each use. In either case, canisters must never be used after the expiration date stamped on the label.

Half-facepiece respirator with goggles

A worker may use a half-facepiece respirator with vapour-tight chemical goggles when working on a chlorine system where there is a chance of a small leak. This type of respirator is permitted only when the chlorine concentration is below 5 ppm.



A Self-Contained Breathing Apparatus (SCBA)

Self-Contained Breathing Apparatus (SCBA)

A worker must use an SCBA when a chlorine leak is suspected and the airborne chlorine concentration is unknown or is measured at more than 10 ppm. A worker wearing an SCBA must not enter a contaminated atmosphere until a second, qualified person is present, also equipped with an SCBA, and ready to perform a rescue.

SCBA air cylinders should be refilled every six months or after each use, whichever comes first. Cylinders must have a hydrostatic test at least every five years. Since workers rely on this equipment in IDLH conditions, it is essential that maintenance and inspections be carried out according to the manufacturer's instructions.

Escape respirator

There are two acceptable types of escape respirators: bite-block respirators and half-facepiece cartridge respirators fitted with acid gas cartridges. Bite-block respirators must be worn with nose plugs. Escape respirators may only be used for immediate evacuation of the contaminated atmosphere.

Anyone entering a chlorine room for any reason must carry an escape respirator and keep it within arm's reach at all times.

There is one exception: As long as the worker is not working on the system itself, an escape respirator may not be necessary if the worker is never more than 2 m (6 ft.) from the exit door and no part of the chlorine system is between the worker and the exit door. This is because it would take longer to put on the respirator than it would to exit the room.



An escape respirator

Table 4: Choosing the right respirator

Situation	Chlorine concentration	Respirator choice
routine work in chlorine room	—	escape respirator (If a leak occurs, the concentration will be unknown. Exit room immediately.)
working on chlorine system	—	<ul style="list-style-type: none"> • half-facepiece respirator with tight chemical goggles, or • full-facepiece respirator (If a leak occurs, the concentration will be unknown. Exit room immediately.)
leak occurs, enter to repair	up to 5 ppm	<ul style="list-style-type: none"> • half-facepiece respirator with tight chemical goggles, or • full-facepiece respirator
	greater than 5 ppm up to 10 ppm	full-facepiece respirator
	greater than 10 ppm	SCBA
	unknown; always assume to be IDLH level	SCBA

Person-check radio or telephone

Employers must establish a check system to ensure the continued well-being of workers who are working alone or at an isolated worksite. Where visual checks are not possible, the check system may require a radio or telephone. Workers who will need to use such a system must be trained in the written procedure.

Emergency equipment

Emergency equipment includes eye wash and shower facilities, first aid kits, and container repair kits. Workers must have immediate access to each of these items and must know how to use them in case of emergency. Emergency equipment is covered in more detail on pages 17–18. For first aid information, see pages 33–34.

For more detailed information on personal protective equipment, contact:

- Chlorine suppliers
- Equipment manufacturers
- Safety equipment suppliers
- WCB Prevention offices (listed at the end of this manual)

First aid

When someone is injured in a chlorine-related incident, first aid can help reduce the impact of their injuries and prevent further injuries from occurring. The following steps apply to any situation in which someone is injured:

1. Do not panic.
2. Ensure that there is no more danger to yourself or the victim.
3. Using appropriate safety gear, remove the victim from the contaminated area.
4. Send for medical help.

Chlorine inhalation

Someone who has inhaled chlorine may be unconscious, and may have difficulty breathing or may have stopped breathing completely. Follow these steps when treating a victim of chlorine inhalation:

1. Assess the victim's breathing:
 - If breathing has stopped, begin artificial respiration and continue until the victim resumes breathing. Pocket masks are recommended for artificial respiration, although the mouth-to-mouth method may also be used.
 - If the victim is having difficulty breathing (for example, gasping or coughing), place the victim in the most comfortable position, usually semi-sitting.
2. If an oxygen therapy unit and trained personnel are available, administer oxygen at a 10-litre flow.
3. Ensure that the victim is transported to hospital in case the victim suffers a delayed reaction in the form of pulmonary edema. Any physical exertion, excitement, or apprehension increases the chance and severity of a delayed reaction. Keep the victim warm and completely at rest. Reassure the victim while waiting for assistance and transportation to hospital.

Unconscious patients

As soon as they resume breathing, always place unconscious patients in the drainage position (on their side, so fluids can drain from the mouth and airways). Never give an unconscious patient anything by mouth.

Skin contact

Skin contact with chlorine can result in severe burns. Before attempting to flush a victim's contaminated skin, make sure the victim is breathing properly. Follow these steps:

1. Assess the victim's breathing:
 - If breathing has stopped, begin artificial respiration and continue until the victim resumes breathing. Pocket masks are recommended for artificial respiration, although the mouth-to-mouth method may also be used.
 - If the victim is having difficulty breathing (for example, gasping or coughing), place the victim in the most comfortable position, usually semi-sitting.
2. As soon as the victim resumes breathing, flush the victim's contaminated skin and clothing with large amounts of water for 30 minutes.
3. Remove all contaminated clothing while flushing.
4. Continue flushing until all traces of chlorine have been removed.
5. Dress obvious burns with sterile gauze and bandage them loosely. Apply insulated cold packs to help reduce pain.
6. Get the victim to hospital.

Notes:

1. Do not attempt to neutralize the chlorine with other chemicals.
2. Do not apply salves, ointments, or medications unless prescribed by a doctor.
3. Skin contact with liquid chlorine coming straight out of a cylinder can result in frostbite.

Eye contact

Eye contact with chlorine (liquid or gas) for even a short period can cause permanent disability. Flushing must begin within 10 seconds. Follow these steps:

1. Flush the eyes immediately with large amounts of running water (preferably lukewarm) for 30 minutes. Hold the eyelids forcibly apart to ensure full flushing of the eyes and eyelids.
2. After flushing has removed all traces of chlorine, cover both eyes with moistened sterile gauze pads and bandage, enough to keep light out.
3. Apply insulated cold packs to help reduce pain.
4. Get the victim to hospital.

Notes:

1. Do not attempt to neutralize the chlorine with other chemicals.
2. Do not apply oils, ointments, or medications to the eyes.

WCB offices and Prevention numbers

Visit our Web site at www.worksafebc.com.

Abbotsford

2774 Trethewey Street V2T 3R1
Phone 604 276-3100
1 800 292-2219
Fax 604 556-2077

Burnaby

450 – 6450 Roberts Street V5G 4E1
Phone 604 276-3100
1 888 621-7233
Fax 604 232-5969

Coquitlam

104 – 3020 Lincoln Avenue V3B 6B4
Phone 604 276-3100
1 888 967-5377
Fax 604 232-1946

Courtenay

801 30th Street V9N 8G6
Phone 250 334-8745
1 800 663-7921
Fax 250 334-8757

Cranbrook

100 7th Avenue S. V1C 2J4
Phone 250 417-7934
1 800 663-4912
Fax 250 417-7972

Kamloops

321 Battle Street V2C 6P1
Phone 250 371-6003
1 800 663-3935
Fax 250 371-6031

Kelowna

110 – 2045 Enterprise Way V1Y 9T5
Phone 250 717-4313
1 888 922-4466
Fax 250 717-4380

Nanaimo

4980 Wills Road V9T 6C6
Phone 250 751-8040
1 800 663-7382
Fax 250 751-8046

Nelson

524 Kootenay Street V1L 6B4
Phone 250 352-2824
1 800 663-4962
Fax 250 352-1816

North Vancouver

100 – 126 E. 15th Street V7L 2P9
Phone 604 276-3100
1 888 875-6999
Fax 604 232-1500

Prince George

1066 Vancouver Street V2L 5M4
Phone 250 561-3700
1 800 663-6623
Fax 250 561-3710

Surrey

100 – 5500 152 Street V3S 5J9
Phone 604 276-3100
1 888 621-7233
Fax 604 232-7077

Terrace

4450 Lakelse Avenue V8G 1P2
Phone 250 615-6605
1 800 663-3871
Fax 250 615-6633

Victoria

4514 Chatterton Way V8X 5H2
Phone 250 881-3418
1 800 663-7593
Fax 250 881-3482

Head Office/Richmond

Prevention:
8100 Granville Avenue
Phone 604 276-3100
1 888 621-7233 (621-SAFE)

Administration:

6951 Westminster Highway
Phone 604 273-2266

Mailing Address:

PO Box 5350 Stn Terminal
Vancouver BC V6B 5L5

After Hours Health and Safety Emergency

604 273-7711
1 866 922-4357 (WCB-HELP)

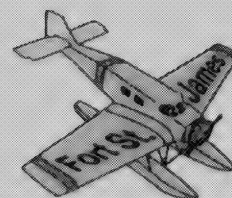
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Dayton & Knight Ltd.
CONSULTING ENGINEERS



NAK'AZDLI BAND



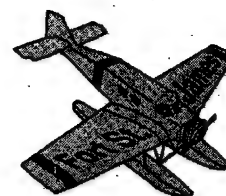
DISTRICT OF FORT ST. JAMES

SEWAGE TREATMENT LAGOON UPGRADING OPERATIONS & MAINTENANCE MANUAL

"DRAFT"

FEBRUARY 2006

**DAYTON & KNIGHT LTD.
Consulting Engineers**



NAK'AZDI BAND

**DISTRICT OF FORT
ST. JAMES**

UPGRADE OF THE EXISTING SEWAGE LAGOON

CONTRACT NO. 403.1

DECEMBER 2003



**NAK'AZDI BAND
DISTRICT OF FORT ST. JAMES
389 Stuart Drive West
Fort St. James, B.C.
V0J 1P0**

DEC 19, 2006

**DAYTON & KNIGHT LTD.
Consulting Engineers
612 Clyde Avenue
West Vancouver, B.C.
V7T 1C9**

**NAK'AZDI BAND/DISTRICT OF FORT ST. JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

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COMPANY AUTHORIZATION

This document, entitled Nak'azdi Band/District of Fort St. James, Upgrading of the Existing
Sewage Lagoon, Contract No. 403.1 was prepared for:

Nak'azdi Band/District of Fort St James

by:

Dayton & Knight Ltd.

	Seal	Signature	Date
Project Manager/Engineer			

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

TENDER SUMMARY FORM

TENDERER: _____

CLOSING DATE: _____

TENDER PRICE: _____

ADDENDA

ADDENDUM NO. _____ **DATED** _____

ADDENDUM NO. _____ **DATED** _____

ADDENDUM NO. _____ **DATED** _____

It is herewith acknowledged that the
foregoing Addenda have been received and
form part of the Tender.

SUBMISSION OF TENDER

Complete Tender Summary Form, Addenda Form, Form of Tender including all Schedules and
Undertaking of Surety. Enclose Bid and Performance guarantees and return the Tender package.

Signature of Tenderer

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

CALL FOR TENDERS

Tenders are invited for the upgrade of the Nak'azdi Band/Fort St James Existing Sewage Lagoon located in Fort St. James, B.C. The work to be performed under this contract includes the removal of sludge from three existing sewage lagoon cells, the supply and installation of new fine bubble aeration equipment for four existing lagoon cells, supply and installation of new air piping and appurtenances, supply and installation of new blower packages and related electrical work, and construction of a new concrete septage receiving chamber.

Sealed tenders clearly marked "Tender for the Upgrade of the Fort St James Sewage Lagoon", will be received at the offices of the District of Fort St James, 389 Stuart Drive West, Fort St. James, B.C. V0J 1P0, up to 2:00 p.m. local time, _____, 2004 and will be opened in public immediately thereafter.

Copies of the drawings, documents and tender forms may be obtained on _____, 2004 from the offices of the District of Fort St James or at the offices of Dayton & Knight Ltd., upon receipt of a non-refundable fee of \$50.00 including G.S.T. Cheques are to be made payable to Dayton & Knight Ltd.

The lowest or any tender will not necessarily be accepted. The acceptance of any tender shall be subject to funds being legally available for such purpose.

Inquiries may be directed to Mr. Brian Harrington, P. Eng. of Dayton & Knight Ltd., Tel: 922-3255, Fax: 922-3253

Mr. Dan Zabinski.
District of Fort St James
389 Stuart Drive West
Fort St James, B.C.
V0J 1P0

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

INFORMATION FOR TENDERERS

1. Introduction

The District of Fort St. James, hereinafter referred to as the Corporation, invites Tenders for the fulfilment of Contract No. 403.1.

The work to be performed under this contract includes the removal of sludge from three existing cells, supply and installation of new aeration systems for the two existing anaerobic cells and two existing aerated cells, construction of a septage receiving chamber and vehicle access, supply and installation of three new blowers to replace existing units, and miscellaneous mechanical, piping, electrical, instrumentation and ancillary work.

The work includes supply, installation, testing start-up of the new facilities including the furnishing and installation of all necessary equipment and appurtenances.

The Contractor shall provide all supervision, labour, materials and equipment required, and leave the work in an operable, adjusted and acceptable condition.

The Contractor shall note that the Corporation reserves the right to delete any work from the Contract as deemed most favourable in the interest of the Corporation and in order to maintain the cost of the sanitary sewerage program within the available funding limits.

2. Inspection of Site

Location of the work is shown on the drawings.

Tenderers are invited to inspect the site of the work in order to satisfy themselves, by personal examination or by such other means as they may prefer, of the location of the proposed work, as to the actual conditions and requirements of the work and as to the accuracy of the information provided by the Corporation. If, during the course of his examination, the Tenderer finds facts or conditions which in any way conflict with the letter or spirit of the specifications, or with any other data furnished to him, he shall apply to the Corporation for information and explanation before submitting his Tender.

A pre-tender site meeting will be held on _____, 2004 commencing at 10:00 a.m. at the District of Fort St James, Sewage Treatment Plant, with representatives of the District and Dayton & Knight Ltd. Interested tenderers are encouraged to attend.

3. Qualifications of Tenderers

The Tenderer shall include with the Tender on the form provided herewith a statement of his actual experience in the construction of work of comparable nature and magnitude to that specified herein and shall be required to provide evidence of his competence to be able to satisfactorily carry out the work.

4. List of Subcontractors

The Tenderer shall include with his Tender on the form provided herewith a list of sub-contractors who will perform work or labour or render service to the Contractor on or about the construction site in an amount in excess of two percent (2%) of the total Tender. The list shall include the sub-contractor's name and location of the place of his business and the portion of the work to be done by the sub-contractor.

5. The Tender

The lowest or any tender will not necessarily be accepted. The acceptance of any Tender shall be subject to the sufficient funds be legally available for such purpose, and to receiving all the required permits and approvals from the authorities.

The right is reserved by the District to reject any or all tenders, to waive informality in the tenders and to accept or reject any items of any tender. A tender is incomplete, obscure, or has erasures or corrections may be rejected.

The amount of the work to be done and the material to be furnished under this Contract has been preliminary estimated as set forth in Schedule 1 of Quantities and Prices of these estimates will be used as a basis for comparing tenders. The Corporation reserves the right to increase or decrease the amount of work as in its own opinion may be in its best interests. Some of the items may even be eliminated from the work.

The tenderer shall include in his tender sufficient amount to cover the cost of work and materials not listed in Schedule 1 - Quantities and Prices, but included in the drawings and/or specifications by either direct mention or implication. All such amounts shall be included in the items to which they pertain most closely in Schedule 1 - Quantities and Prices. Costs of a general nature that do not pertain to any one item shall be prorated among all the items.

No claim for extra payment on the grounds that the work performed or the materials supplied could not be properly charged to the items in Schedule 1 - Quantities and Prices will be considered.

The Tender shall be made on the form of tender provided herein. The tender form, bid bond or certified cheque, undertaking of surety, schedules and the Tender Summary Form should be submitted with the tender. The Tender and its schedules shall be signed by the tenderer or tenderers and in the case of a Corporation shall be executed under seal. The Tender shall have annexed thereto either (a) a bid bond in the amount of ten percent (10%) of the tendered price (the form of which is hereto annexed) and an undertaking of a guarantee or surety company authorized to carry

on business in the Province of British Columbia, acceptable to the Corporation to the effect that it will become bound for the tenderer in a performance and fulfilment bond and a labour and material payment bond (the form of which are hereto annexed) in terms satisfactory to the Corporation for fifty percent (50%) of the amount of the total accepted tendered price or (b) a certified cheque for ten percent (10%) of the tendered price drawn on a chartered Canadian bank located in British Columbia as a guarantee that if the tenderer is awarded a contract by the Corporation that the tenderer will provide to the Corporation an irrevocable letter of credit in the form annexed thereto in the amount of twenty percent (20%) of the amount of the total accepted tendered price to serve as a performance and fulfilment and a labour and material payment guarantee.

The labour and material bond will be based on the amount of the awarded tender. The bid bond percentage shall be based on the full amount of the tender.

The certified cheque of the successful Tenderer will be returned upon the delivery of a performance and fulfilment bond and a material and payment acceptable to the Corporation.

The amount payable to the Corporation under the said bid bond or certified cheque shall be forfeited to the Corporation in case of a failure or neglect of the Tenderer to complete the required performance and fulfilment requirements, and to enter into, execute and deliver to the Corporation an agreement in the relative form hereto annexed within ten (10) days after being notified in writing by the Corporation of tender acceptance.

Completed Tender Summary, Tender Summary Form, Form of Tender including all the Schedules and Undertaking of Surety and Bid guarantees shall be enclosed in a sealed envelope, clearly marked "Tender for Contract No. 403.1 - Upgrade of the Existing Sewage Lagoon" shall be delivered to the offices of the District of Fort St James not later than 2:00 p.m. local time on _____, 2004. Tenders received late will not be considered.

No oral, telephonic, e-mail, facsimile (fax) and telegraphic amendments will be considered.

Each tenderer's special attention is drawn to the requirement that the Tender shall be signed, sealed and witnessed. The tendered prices quoted shall be firm for ninety (90) calendar days after the date of tender opening.

6. Return of Tender Guarantees

All Tender guarantees will be held until the Contract agreement and the requisite performance and fulfilment requirements have been fully executed.

7. Acceptance of Tender

The acceptance of the Tender will be a notice in writing known as the "Notice of Acceptance" signed by a duly authorized representative of the Corporation and no other act of the Corporation shall constitute the acceptance of the Tender.

8. Agreement

The agreement shall be executed in triplicate by the successful Tenderer and returned to the Corporation within ten (10) days of Notice of Acceptance. After execution by the Corporation, two copies will be retained by the Corporation and one copy will be returned to the Contractor.

9. Performance and Insurance Requirements

The performance and fulfilment requirements and the insurance requirements shall also be provided within ten (10) days of notice of acceptance.

10. Notice to Proceed

Once the Corporation is satisfied that the performance and fulfilment requirements and the insurance requirements including submission by the Contractor of Workers Compensation Board's certificate are satisfactory, it will issue written Notice to Proceed. No work shall take place on the site until issuance of the Notice to Proceed.

11. Interpretation of Contract Documents

If a prospective Tenderer for the proposed work is in doubt as to the true meaning of any part of the specifications or other documents, or finds omissions or discrepancies therein, he may submit a request for interpretation or correction thereof and if deemed necessary by the Corporation, an addendum will be issued to all persons receiving such specifications or other documents, should the Corporation, of its own accord, wish to expand or delete any portion of the said specifications or documents.

12. Variations

Tenderers shall bid strictly in accordance with the specifications contained herein and shall fill in the prices in Schedule 1 - Quantities and Prices on that basis. This permits the Corporation to fairly compare Tender submissions on an equal basis. If any conditions in the Contract documents are unacceptable, then the Tenderer shall not submit a Tender.

Tenderers, however, may also suggest proposed variations to the Contract, in which case these shall be described in detail in Schedule 2 and the resulting cost increase or decrease to the amount stated. The Corporation will consider such proposed variations and cost differences to the tendered amount but the acceptability of same shall be the sole judgement of the Corporation.

13. Taxes

The Tenderer shall include all applicable taxes (Federal, Provincial, Municipal). GST tax shall be shown separately.

14. GST Registration

In the space provided in Schedule 1, Quantities and Prices the Tenderer shall either fill in his Goods and Services Tax registration number or certify that he is not required to provide a registration number under the Goods and Services Tax legislation.

15. Materials Specified

Materials and/or equipment in some instances have been specified by name for the purpose of indicating the required quality and performance. The names were solely used because of designer familiarity and for no other reason. The Corporation will consider other equivalent equipment and/or materials proposed by the Contractor. Materials and/or equipment in the vicinity of the new clarifiers may only be altered, however, with the written approval of the Corporation.

16. Geotechnical (Not Used)

17. Provincial Fair Wage and Skills Development Policy

The Provincial Fair Wage and Skills Development Policy apply to this project.

18. Enquiries

General enquiries may be directed to the District, attention Mr. Dan Zabinski, (250) 869-5671, fax (250) 869-2275 and technical questions to Dayton & Knight Ltd., attention Mr. Brian Harrington, P.Eng., (604) 922-3255, Fax (604) 922-3253.

19. Permits and Regulations

The Contractor shall comply with all municipal and governmental regulations governing construction and pay for and obtain all necessary permits.

20. General

Tenderers not complying with these requirements run the risk of having their Tenders rejected.

The lowest or any Tender will not necessarily be accepted, and the acceptance of any Tender shall be subject to the condition that Corporation funds are legally available for such purposes.

General enquiries to:

District of Fort St James
389 Stuart Drive West
Fort St James, B.C.
V0J 1P0
Tel: 869-5671
Fax: 869-2275

Technical enquiries to:

Mr. Brian Harrington
Dayton & Knight Ltd.
612 Clyde Avenue
West Vancouver, B.C.
V7T 1C9
Tel: 604-922-3255
Fax: 604-922-3253

**NAK'AZDI BAND/DISTRICT OF FORT ST. JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SPECIFICATIONS

SECTION 1 - GENERAL

1.01 Scope of Work

The work to be performed under this contract includes the removal of sludge from three existing cells, supply and installation of new aeration systems for the two existing anaerobic cells and two existing aerated cells, construction of a septage receiving chamber and vehicle access, supply and installation of three new blowers to replace existing units, and miscellaneous mechanical, piping, electrical, instrumentation and ancillary work.

The Contractor shall supply all required materials.

The Contractor shall provide all supervision, labour and materials and equipment required, and leave the work in an operable, adjusted and acceptable condition.

In addition the Corporation reserves the right to delete any of the work from the Contract.

1.02 Definitions

In the contract hereinafter defined the following words and expressions shall have the meaning hereby assigned to them:

- (a) "CORPORATION" shall mean the District of Fort St. James and its duly authorized agents.
- (b) "APPROVED" means approved in writing by the Engineer including subsequent written confirmation of previous verbal approval.
- (c) "CONTRACT" is the agreement between the Corporation and the Contractor for the provision of labour, plant, and materials for the execution of the Works by the Contractor.
- (d) "CONTRACT DOCUMENTS" the Contract Documents consist of the executed Agreement and the General Conditions of Contract, Supplementary General Conditions, Specifications, Drawings, Tender documents, and such other documents including all amendments thereto made pursuant to the provisions of the Contract or agreed upon between the parties.
- (e) "CONTRACTOR" means the person or persons or a company whose tender has been accepted by the Corporation and who has entered into a contractual "Agreement" with the Corporation, and includes the Contractor's personal representative or successors.

- (f) "CONTRACT PRICE" means the sum named in the Tender subject to such additions and deductions as may be made under the provision of the Contract.
- (g) "DRAWINGS" means the Drawings referred to in the contract Documents together with any modification of such Drawings approved in writing by the Engineer and such other drawings as may be furnished or approved in writing by the Engineer.
- (h) "ENGINEER" means, the District of Fort St. James, its representatives, or other Engineers appointed from time to time by the Corporation and notified in writing to the contractor, or his properly authorized agent.
- (i) "MATERIAL SUPPLIER" means any person, firm or corporation furnishing material to the Contractor for incorporation into the Works, such material not being worked to a special design.
- (k) "PLANT" shall mean all equipment and materials of every kind whatsoever brought onto the site by the Contractor, incidental to, or to assist him in the performance of the Works, but does not include materials or equipment intended to form or forming an integral part of the works.
- (l) "PUBLIC UTILITIES" means the authorities responsible for the distribution of Utility Services.
- (m) 'SUB-CONTRACTOR' includes only a person, firm or corporation having a contract with the Contractor for the execution of a part of parts of the work included in the Contract, and a person, firm or corporation furnishing material called for in the Contract and worked to a special design according to the Drawings or Specifications, but does not include one who merely furnishes material not so worked.
- (n) "SUBSTANTIAL PERFORMANCE" shall have the meaning ascribed to it by the Lien Legislation applicable to the location of the project, or if no such legislation is in effect or does not contain such definition, Substantial Performance shall have been reached when the Works are ready for use or are being used for the purpose intended as certified by the Engineer.
- (o) 'TENDER SUM' means the sum named in the form of Tender.
- (p) "UTILITY SERVICES" means electric cables, telephone lines, gas pipes, water mains or pipes, sanitary sewers, storm water drains, conduits, or transmission lines, street lighting facilities, and traffic signal systems, whether public or private.
- (q) "WORK OR WORKS" means the whole of the works, materials, matters and things to be done, furnished and performed by the Contractor under the Contract.
- (r) "HEREIN" and "HEREOF" and similar expressions wherever used in the Contract Documents, shall relate to the whole of the Contract Documents and not to any one (1)

paragraph alone, unless the context specifically requires it.

- (s) "SUPPLY" or "PROVIDE" shall mean supply and pay for or provide and pay for.

1.03 Standard Specifications

Wherever standard specifications are referred to, they shall be the edition current on the date of the advertisement for tenders for this Contract and they shall be considered to be a part of these specifications insofar as they apply.

Wherever reference is made to a particular part or section, the reference is primarily for convenience, and in no way limits the application of the provisions of the specifications as a whole.

Standard specifications from the following sources are referred to herein:

American Concrete Institute (ACI)
American Institute of Electrical Engineers (AIEE)
American Institute of Steel Construction (AISC)
American Society of Civil Engineers (ASCE)
American Society for Testing and Materials (ASTM)
American Water Works Association (AWWA)
American National Standard Institute (ANSI)
Canadian Electrical Manufacturers' Association (CEMA)
Canadian Standards Association (CSA)
National Building Code of Canada (NBC)
National Electrical Code (NEC)
Environmental Protection Agency (EPA)

Wherever reference is made to a particular part or section, the reference is primarily for convenience, and in no way limits the application of the provisions of the specifications as a whole.

1.04 Time for Commencement and Completion of Work

The Contractor shall be mobilized and on site within ten (10) calendar days after the date specified in the Notice to Proceed.

The work included in this contract shall be completed and ready for the start-up no later than _____.

1.05 Drawings

Details of the work are shown on Drawings No. 403.1 Sheets 1 through 13, Rev. A/B which accompany and form part of this Contract.

These drawings may be supplemented or superseded by additional drawings as the work progresses. Such additional drawings shall not be considered to involve changes or extras within the meaning

of the Contract and specifications. The Contractor shall check all drawings carefully and advise the Engineer, Dayton & Knight Ltd., 612 Clyde Avenue, West Vancouver, B.C., V7T 1C9, Telephone 604-922-3255, Fax 604-922-3253, of any errors or omissions. Full instructions will be furnished by the Engineer should any errors or omissions be discovered. The Contractor shall not take advantage of any errors or omissions.

Upon award of the Contract, the Contractor will be furnished with 8 sets of Contract drawings and specifications.

1.06 Accuracy of Drawings

The drawings indicate the intent of the work and construction details as accurately as is possible. Because of the nature of the work, however, minor adjustments may be required in the field to meet specific conditions and the Contractor shall make such adjustments without additional cost to the Corporation. Where existing dimensions are shown, a hard conversion has been used to translate dimensions from imperial to metric units. It is stressed that all existing dimensions and elevations are approximate.

1.07 Surveys and Datum

Elevations refer to Canada Geodetic Survey datum.

The Corporation will provide baselines for the structures. From the information provided by the Corporation, the Contractor shall develop and make such additional detail surveys as are needed for construction.

The Contractor shall supply all wooden survey stakes and hubs which shall be of good quality.

The Contractor shall maintain thereafter, all bench marks, baselines, property boundaries and other references and construction points, as originally established by the Corporation, be responsible for keeping their accuracy, pay to the Corporation all costs of re-establishing them if they are disturbed and notify the Corporation in writing at least five (5) days in advance of the time he will work on any part of the construction requiring surveys to be provided by the Corporation.

All elevations on the contract drawings refer to the Canada Geodetic Datum. Elevations/dimensions are generally shown in metres/millimetres.

1.08 Access and Public Safety

It shall be the Contractor's responsibility to notify the municipal authorities for traffic control, fire protection and public transportation regarding his construction schedules and limited access areas, and he shall comply with the requirements of these authorities.

The Contractor shall effectively warn and protect the public from any danger as a result of the work being done.

No material or equipment shall be stored where it will interfere with the free and safe passage of public traffic, or in such a manner that it creates a hazard to the public, and at the end of each day's work and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from that portion of the roadway open for use by public traffic.

1.09 Lines and Grades

Dimensions for the determination of quantities for payment will be taken from the drawings where the location of the lines and points determining quantities for payment is not varied during the construction from the locations shown on the drawings. Where, however, the location of such lines and points is altered during the construction, field measurements will be made by the Corporation to determine the changed dimensions for payment, and these may be witnessed by the Contractor. If the Contractor disagrees with the dimensions shown on the drawings, or the field measurements, he shall notify the Corporation before the work is covered up, so that the true dimensions can be established by the Corporation. In all cases where the procedure for determination of quantities is not expressly defined in this Contract, the Corporation shall be the sole judge as to which measurements properly define the quantities.

No payment will be made for the cost to the Contractor of any work or delay occasioned by establishing or checking lines and grades or making other measurements and no extension of time will be allowed for any delay occasioned thereby.

1.10 Protection of Existing Utilities, Materials and Equipment

Prior to construction, the Contractor shall check the location of all existing utilities to preserve and protect them from damage during work, and to arrange for their relocation if required.

The Contractor shall comply with all regulations governing construction and pay the necessary permit fees.

The Contractor shall also determine and comply with the requirements of the owners of utilities regarding access to their property, limitation regarding working area, construction methods on their property and removal and reconstruction as necessary of structures and utilities affected by the construction.

The cost of utility relocation shall be paid by the Contractor if the relocation is for the convenience or safety of construction, and by the Corporation if the relocation is necessary by a direct conflict between the work and the utility which in the opinion of the Corporation cannot be otherwise avoided except as noted herein or on the drawings as being the Contractor's responsibility.

Materials and equipment shall be shipped, handled, stored and installed in ways that will prevent damage to the items. Damaged items will not be permitted as part of the work except in cases of minor damage that have been satisfactorily repaired and are acceptable to the Corporation.

1.11 Permits and Regulations

The Contractor shall comply with all municipal and governmental regulations governing construction and pay for and obtain all necessary permits, including all building permits. The Contractor shall apply for a building permit from the District of Fort St. James and pay the building permit fee.

1.12 Contractor's Office

During the continuance of the work the Contractor shall maintain an office equipped with a telephone and a fax machine at the site.

Before commencement of construction, the Contractor shall provide the Corporation with a list of at least three persons who have authority to act on behalf of the Contractor in times of emergency. At least one on the list shall be available at all times beyond the normal working hours of the Corporation Offices (8:30 a.m. to 4:30 p.m., Monday to Friday inclusive).

1.13 Office Facilities for the Corporation Engineer

The Contractor shall provide a site office for the Corporation, the location of which shall be subject to the Corporation's approval. The office shall be weatherproof and shall have adequate heating, lighting, ventilation and window area. The office shall further be provided with automobile access and a parking area. The office shall be separate from the Contractor's office and shall have a minimum floor area of 15 square metres.

The office shall be furnished as follows:

- two sets of keys for the lockable door;
- one drawing table with two stools;
- one chair with double pedestal desk and drawers;
- one telephone;
- two 15 ampere convenience outlets;
- one four-drawer legal size metal filing cabinet, lockable;
- one facsimile machine.

The Contractor shall be responsible for all costs of telephone installation, heating, lighting and all normal monthly charges for the maintenance of the office except that long distance telephone charges will be reimbursed to the Contractor on submission of invoices to the Corporation.

The Contractor shall remove the office and equipment from the site at the conclusion of the work when instructed to do so by the Corporation.

1.14 Construction Utilities

(1) Power

The Contractor shall arrange with B.C. Hydro for supply of electric power used for construction. The cost of construction power shall be paid by the Contractor. It will be the Contractor's responsibility to provide all necessary special connections as required for his work.

(2) Water

The Contractor shall arrange for supply of water required for construction and testing.

It will be the Contractor's responsibility to provide all necessary equipment and special connections as required for his work.

(3) Sanitary Facilities

All portions of the work shall be maintained at all times in a neat, clean and sanitary condition.

Sanitary conveniences shall be provided by the Contractor, for the use of persons engaged in the work and their use shall be strictly enforced. Such conveniences shall be properly secluded from public observation. They shall be located, constructed and maintained subject to the approval of the Corporation. They shall be removed upon completion of the work.

(4) Parking Facilities

It shall be the responsibility of the Contractor to provide adequate parking areas for vehicles used by his employees.

1.15 Information to be Furnished by Contractor

During the performance of the work, the Contractor shall furnish information to the Corporation concerning his method of prosecuting the work and the materials and/or equipment to be incorporated in the work.

Before beginning the work, the Contractor shall submit a proposed construction schedule and a sequence of operations in a form acceptable to the Corporation, indicating the various subdivisions of the work, and the dates of commencing and finishing each of them.

The Corporation reserves the right to request adjustments to the schedules, if in its opinion the schedule does not fulfil the intent of this contract. The Contractor shall adjust the schedule, if so requested, and resubmit.

The Contractor shall submit six copies of shop drawings and six copies of detailed operation and maintenance manuals to the Corporation for review as required under subsequent sections of the specifications.

1.16 Site Security and Release of Information

Before the start of any construction, the Contractor shall post the site to prevent trespass. The Contractor shall not give any information regarding the work to anyone, but shall refer anyone seeking information to the Corporation.

1.17 Contractor's Plant

The Contractor shall be responsible for the supply, erection, maintenance and removal of whatever buildings or appurtenances he requires to perform the work, and shall obtain any necessary clearances or permissions that are required.

1.18 Working Area

The Corporation will mark out the extent of the working area and trees to be protected with suitable markers. The Contractor shall maintain markers during construction and shall ensure that limits of the working area are adhered to.

Open excavations and manholes/chambers shall be suitably barricaded and at night shall also be identified with flashing lights, installed and maintained by the Contractor to the satisfaction of the Corporation.

1.19 Access and Working Space

The Contractor shall make all arrangement for access to the work site and for working space necessary to store, assemble and construct the work. Access and working space shall be subject to the approval of the Corporation.

The Contractor shall note that there are the existing underground utilities in shallow depth under the existing berms and elsewhere within the treatment plant site. These utilities and structures including the edges of the existing clay liner must be protected during construction and traffic must be re-routed accordingly. Any damage to the existing utilities and structures shall be repaired by the Contractor.

The working area boundary will be stated out by the Corporation. The area located beyond this boundary shall be strictly protected.

The Contractor shall effectively warn and protect the public from any danger as a result of the work being done.

1.20 Curtailment of Service

Where existing services such as water, sewer, electricity, telephone need to be temporarily disconnected, work shall be planned and executed such that there is no curtailment of service provided by these utilities without prior approval of the Corporation. If approval for such disruption of utility service is not granted, the Contractor shall establish temporary facilities to provide continuous service during the course of construction.

1.21 Work in Vicinity of Overhead Power Lines

In vicinity of overhead power lines, equipment shall not be operated where it is possible to bring such equipment or any part of the equipment to within 3 meters of any energized electrical conductor unless the Utility Company has been notified, the line de-energized, or effectively guarded against contact, or displaced or re-routed from the work area. The Contractor shall fill and submit to W.C.B. two copies of Form 30M33 prior to the commencement of work.

1.22 Protection of Drainage System

The Contractor shall not interfere with the function of existing ditches and culverts and shall provide temporary drainage facilities when necessary to ensure that all items have adequate natural drainage. Where construction has effected a change in the drainage facilities, the Contractor shall restore such to at least its original condition.

It shall be the responsibility of the Contractor to reinstate, stabilize and maintain for the one year maintenance period, drainage ditches and culverts wherever the work crosses or closely parallels said drainage ditches or culverts. Drainage ditches and culverts shall have the same or greater flow capacity after construction as they did prior to construction.

1.23 Protection of Structures

Unless authorization from the Corporation is received for their removal, underground and surface structures encountered during construction shall be protected from damage. In the event of damage resulting from the construction operation, they shall be repaired or replaced at the contractor's sole expense to a condition which is at least the equivalent of that which existing prior to construction.

1.24 Protection of Environment and Watercourses

The watercourses are defined as rivers, creeks, ponds, marshes, and ditches. All work shall be carried out in accordance with the Ministry of Environment, Lands and Parks, "Land Development Guidelines for the Protection of Aquatic Habitat", and any related regulations. The following general requirements shall govern the work:

- (a) In undertaking the Work, the Contractor shall be responsible for the actions of any and all of its agents, employees, and Subcontractors.
- (b) The Contractor shall provide, in accordance with applicable federal and provincial

legislation and regulations and municipal or regional bylaws, all suitable equipment, facilities, and precautions required to control the discharge of contaminants, and/or other actions which may pollute or degrade, any body of water or land areas, or which may harm fish, wildlife, and their habitats.

- (c) Environmental monitoring and inspection by, or on behalf of, the Corporation shall not relieve the Contractor of sole responsibility for the performance of the work in accordance with the terms and conditions or permits, licence and approvals, and other applicable commitments of the Corporation.
- (d) The Contractor, shall conduct all operations in such a way as to minimize the impact upon the natural environment, and shall comply with all environmental legislation, regulations, permits, licenses, agreements, and rules applicable to the Project.
- (e) The Contractor shall undertake reasonable actions to ensure that environmental protection measures are in place and working effectively throughout all areas affected by the Contractor.
- (f) The Contractor shall not do, omit or permit any act or thing which contravenes these Environmental Construction Specifications and applicable legislation, regulations, guidelines, standards and codes of practice.
- (g) In the event that an activity or event which contravenes these Environmental Construction Specifications occurs, the Corporation may issue a Stop Work Order directing the immediate suspension of all or a portion of the activity(ies) causing the environmental impact, and may undertake or order remedial measures to be conducted as deemed necessary. The costs of any work stoppages and/or remedial works necessary shall be the responsibility of the Contractor.
- (h) The Contractor shall suspend any activities or operations which are in contravention of any environmental legislation or regulation, or which are causing, or have the potential to cause, environmental damage.
- (i) Prior to the commencement of construction the Contractor shall provide the Corporation with a work plan indicating its intention and approach to the work to be performed.
- (j) The guidelines for sediment and erosion control outlined in the jointly published Land Development Guidelines for the Protection of Aquatic Habitat (DFO and MELP, 1993) shall be adhered to.
- (k) Care shall be exercised during all phases of the Work to minimize sedimentation of watercourses in the vicinity of the Site, and to eliminate the release of raw concrete, concrete leachate and any other debris or deleterious substances to prevent it from entering water frequented by fish.

Construction and excavation wastes, overburden, soil, or other substances deleterious to

aquatic life must be disposed of or placed in such a manner by the Contractor so as to prevent their entry into any rivers or creeks.

- (l) No fill shall be either placed or stockpiled near any watercourse, outside of the limits set by the Corporation.
- (m) Runoff water from any part of the Site shall comply with the Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for Freshwater Aquatic Life. Specifically, total suspended solids in runoff water shall not exceed 10 mg/litre when background suspended solid concentrations (as measured at representative locations upstream of the discharge source) are equal to or less than 100 mg/litre. Suspended solids should not exceed 10 percent of background concentrations are greater than 100 mg/litre.
- (n) The Contractor shall prepare a Stormwater Drainage and Sediment control Plan to be reviewed by the Corporation, indicating how discharges from the Site and related work areas (including access roads, excavations, soil fill areas) will be managed to comply with the provisions of the Land Development Guidelines for the Protection of Aquatic Habitat (DFO and MELP 1993) and the intent of the Federal Fisheries Act.
- (o) The Contractor shall be responsible for the regular monitoring, maintenance and repairs to improve components of the sediment control plan as necessary to ensure they are working effectively to control discharges from the site. This includes, but is not limited to, monitoring, maintenance, and repairs to any sediment ponds, silt fences, coco matting, gravel filter berms, hay bales, geotextile fabric, and any other control structures employed. These structures shall be maintained until the affected areas are sufficiently stabilized and until there is no longer a risk of the delivery of sediments to aquatic habitats.
- (p) The Corporation may require the Contractor to suspend its operations if the quality of the discharge leaving the site exceeds levels prescribed in the Canadian Water Quality Guidelines for Freshwater Aquatic Life, or with the levels prescribed by the MELP's Water Quality Criteria, or with any levels that may be prescribed by a specific permit or approval. The Contractor shall be responsible for making necessary modifications to its approval. The Contractor shall be responsible for making necessary modifications to its approval. The Contractor shall be responsible for making necessary modifications to its sediment and erosion control measures to ensure compliance with above-referenced criteria, guidelines, and/or terms and conditions of any applicable permit or approval.
- (q) The Contractor shall notify the Corporation immediately when discharges from the site exceed authorized levels, and prepare a plan for resolving non-compliance with applicable standards, criteria, guidelines, or approvals.
- (r) The Contractor shall monitor the quality of water discharges from the Site, and maintain records of water quality monitoring results to be submitted to the Corporation.
- (s) All concrete wash water and solids produced during the operation of concrete ready-mix and pumper trucks will be collected, contained and transported offsite to a treatment facility.

Contingencies for collection, containment and transport of waters originating in and about poured foundations will also be incorporated in the protocol.

- (t) Hazardous materials including, but not limited to, fuels, bitumen's, cement, paints, solvents, cleaners, dust suppressants, used fuel and oil filters, and other construction materials shall be stored and handled to minimize loss and to allow containment and recovery in the event of a spillage accordance with the British Columbia fire Code, the National Fire code of Canada, the Federal Transportation of Dangerous Goods Act, and other applicable legislation and regulations.

1.25 Emergency Situations

In emergency situations resulting from the construction operation, where life or property are endangered, the Contractor shall immediately take whatever action is possible to eliminate the danger and shall also notify the appropriate authorities of the situation.

1.26 Maintenance of Roads

During the execution of the work, the Contractor shall be responsible for maintenance of the travelled roads and parking areas so that they are preserved in a reasonable condition to allow continuous public vehicular travel and safe pedestrian movement.

The Contractor shall undertake necessary watering to continuously reduce dust.

1.27 Shop Drawings

Where required the Contractor shall prepare drawings in sufficient detail to show the methods of construction of work, together with the principal dimensions, material, material specifications and the total net assembled weight of each fabricated piece of work. Six sets of prints of these drawings shall be delivered to the Corporation within thirty (30) days prior to installation of the work. The Corporation will review these prints of the drawings or mark them with such corrections as are deemed necessary by him and will return three set of prints to the Contractor. Prints of the corrected drawings shall be re-submitted by the Contractor in the same manner as above. Any manufacturing done before review of drawings by the Corporation will be at the Contractor's risk. The Corporation shall have the right to require the Contractor to make any changes in the Contractor's drawings which may be necessary, in the opinion of the Corporation, to make the finished product conform to the requirement and intent of the specifications, without additional cost to the Corporation. Review by the Corporation of the Contractor's drawings shall not relieve the Contractor of any part of the Contractor's responsibility for the correctness of the drawings. Four sets of corrected drawings shall be resubmitted for inclusion in the O & M manuals at the request of the Corporation.

1.28 Interpretation of Specifications and Drawings

The specifications and the drawings are intended to be explanatory of each other. Any work indicated in the drawings and not in the specifications or vice versa, is to be interpreted as if

indicated in both. As the figured dimensions shown on the drawings and in the specifications of this Contract may not in every case agree with the scale of dimensions, the said figured dimensions shall be followed instead of the scale dimensions and the drawings to a large scale shall be followed instead of the drawings to a small scale. Should it appear that the work to be done, or any of the matters relative thereto are not sufficiently detailed or explained in this Contract, the Contractor shall apply to the Corporation for such further explanation as may be necessary, and shall conform thereto as part of this Contract, so far as may be consistent with the terms of this contract. In the event of any doubt or question arising respecting the true meaning of the specifications, reference shall be made to the Corporation and its decision thereon shall be final.

1.29 Testing of Materials

Where specified, testing of materials shall be carried out by a firm of testing engineers selected by the Contractor and approved by the Corporation. The results of these tests shall be submitted to the Corporation.

The Corporation reserves the right to witness sampling and testing carried out by the Contractor and carry out its own sampling and testing. The Contractor shall cooperate with and make his facilities available to the Corporation and/or the Corporation's testing engineers for the performance of such tests. The Corporation will carry out additional testing to confirm that the approved material sources or concrete mixes continue to meet specifications.

1.30 Operating and Maintenance Manuals

The provisions of Section 48 of the General Conditions of Contract notwithstanding, before receiving payment for more than 80 percent of the contract price, the Contractor shall deliver to the Corporation four sets of acceptable manufacturer's operating and maintenance instructions covering items of equipment provided under this contract. For the purpose of this article, "equipment" shall mean valves, mechanical, electrical or instrumentation devices. Manufacturer's standard brochures or manuals shall be modified to reflect only that model or series of equipment installed on this project, including any modifications. All extraneous material shall be crossed out or otherwise obliterated. All units shall be in the S.I. System of measurement.

The Contractor shall provide two (2) sets of preliminary manuals to the Corporation for approval at least 30 days prior to start-up. One marked up copy will be returned to the Contractor for final editing within 15 days of its receipt.

The operating and maintenance instructions shall include, as a minimum, the following data for each item of equipment supplied under this Contract.

1. An itemized list of all data provided.
2. Name and location of the manufacturer, the manufacturer's local representative, the nearest supplier, and spare parts warehouse.
3. Manufacturer's descriptive literature and drawings.

4. Accepted submittal information applicable to operation and maintenance, including all shop drawings.
5. Recommended installation, adjustment, start-up, calibration and troubleshooting procedures including blower operating curves.
6. Recommended lubrication and an estimate of yearly quantity needed.
7. Recommended step-by-step procedures for all modes of operation.
8. Complete wiring and control diagrams and internal and external connection wiring.
9. Recommended preventative maintenance procedures and schedule.
10. Labelling and Identification Schedules.
11. Complete parts lists, by generic title and identification number, with exploded views of each assembly.
12. Recommended spare parts.
13. Disassembly, overhaul and reassembly instructions.
14. Binder identification shall include:
 - Title: DISTRICT OF FORT ST. JAMES, SEWAGE TREATMENT PLANT
 - Contract Number: Contract 403.1
 - Project Year: 2004

Following the acceptable installation and operation of an item, the item's instructions and procedures shall be modified and supplemented by the Contractor to reflect all field changes or information requiring field data.

Before final acceptance of the project, the Contractor shall bind all four sets in appropriately labelled, expanding-post type binders. Each completed binder shall contain only that material which can be held with the posts in the non-expanded position and shall be not more than 50 mm thick.

1.31 Record Drawings

Prior to the acceptance of the work, the Contractor shall provide the Corporation with one neatly and legibly marked set of contract drawings showing any changes in the final location of structures, mechanical equipment, piping and electrical conduits, outlet boxes and cables included in the work. Marking of the drawings shall be kept current and be done at the time the material and equipment is erected. These drawings shall be presented monthly to the Corporation's for review. For this purpose the Contractor will be furnished with one set of "prints" upon which to make his mark-ups.

The one marked-up sets of "prints" shall be returned as a condition of acceptance of the work.

1.32 Changes to the Work and Extra Work

Certain changes to the work will be made during the course of construction and these changes, insofar as they are considered by the Corporation to comprise similar work to that specified herein, shall be paid for at the applicable prices in the Schedule of Quantities and Prices.

Extra work and materials requested in writing by the Corporation shall be carried out by the Contractor as provided for in Clause 51 of the General Conditions of Contract. Payment for extra work and materials shall be as set out in Clause 51 or shall be based on force account rates, as the Corporation may elect.

Force account rates shall include all costs to the Contractor including taxes, profit, overhead, small tools, barricades and small equipment normally used by labourers and tradesmen in their work. Rates for large power driven equipment shall include operators, fuel, repairs, moving charges, etc.

On all force account work undertaken by the sub-contractor, the Corporation will make allowance to the Contractor for ten percent (10%) of the sub-contractor's bill for profit and all other related expenses. All materials supplied by the Contractor shall be paid for at the supplier's invoice price plus an additional payment of ten percent (10%).

The cost of the work done each day shall be submitted in writing to the Corporation for approval on the day following the force account work day.

1.33 Construction Program

Within ten (10) days after the date of receipt of notification of acceptance of tender, the Contractor shall furnish the Corporation with a complete construction program showing in detail his proposed program of operations. This program will expand on that provided in Schedule 7.

The Contractor shall immediately advise the Corporation of any proposed changes in his submitted construction program. If, in the opinion of the Corporation, any construction program, as submitted, is inadequate to ensure the completion of the work within the time limited therefore, or is otherwise not in accordance with the specifications, or if the work is not being adequately or properly prosecuted in any respect, the Corporation shall have the right to require the Contractor to submit a new construction program providing for proper and timely completion of the work, and the Contractor shall be entitled to no claim for extension of time on account of such requirement.

The existence of any dispute between the Corporation and the Contractor shall not be grounds for suspension or delay of work under this Contract.

1.34 Special Construction Requirements

(1) Degree of Treatment Required During Construction

The Corporation will operate the existing sewage treatment plant during the period of construction.

The Contractor shall plan his work in accordance with the approved sequence as specified in Paragraph (2) of this section. The bypassing of raw sewage to the Necoslie River will be not permitted under any circumstances.

The Contractor shall schedule and conduct his work so as at all times to minimize interference with plant operation and maintenance. In general, the Contractor shall notify the Corporation one week in advance of the time that it is necessary to take out of service any lagoon, pipeline, electrical conduit, or piece of equipment, or to bypass any portion of the plant. The Contractor shall be responsible for providing whatever temporary piping, pumping, power and control facilities are necessary to maintain plant operation during the execution of this Contract.

(2) Sequence of Operation

Before commencing work the Contractor shall submit a detailed plan showing his proposed sequence and timing of operations. This plan shall be in addition to and separate from his construction schedule. Acceptance by the Corporation of the proposed sequence of operations will in no way relieve the Contractor of the responsibility for providing facilities which permit adequate sewage treatment during the entire construction period.

One of the possible construction sequences is described below. The Contractor shall review the above sequence, adjusted it to suit to his requirements and submit the planned sequence for the Corporation's approval within fourteen (14) calendar days following the award of contract.

- (a) Install new air header to Cell No.'s 1 and 2 and connect to existing blower header. Bypass and drain down Cell No. 1, remove sludge, install aeration equipment and ancillaries, connect to new air header, test and commission system, bring Cell 1 on line.
- (b) Repeat Process for Cell No. 2.
- (c) Repeat process for Cell No. 3 including connection of aeration system to existing FRP air header.
- (d) Repeat process for Cell No. 5 with the exception of no removal of sludge.
- (e) Replace blowers on a rotational basis.

Lagoon wastewater shall be continuously recirculated from Cell 4 back to the Intercell Control Structure 1 (ICS 1) during work on any of the four Cells being taken out of service. The Contractor shall supply all necessary temporary hosing, pumps, valves, and fittings required for recirculation. In particular, the Contractor shall supply a portable centrifugal, recessed impeller pump with a 1,020 lpm (300 gpm) capacity. The pump shall be suitable for dirty wastewater service and come equipped with a motor, floating suction, discharge check valve, pressure gauge, and a clearly labelled emergency shutdown switch. Contractor shall determine suitable pump, motor, and hose size for transferring the maximum flow of 1,020 lpm from Cell 4 to ICS 1. Hose shall be rated to 150 psi. and Contractor shall provide all suitable protection from vehicle traffic for those sections of hose that cross roadways. Contractor shall provide all necessary power and wiring required for operation of the pump in conformance with the Canadian Electrical Code and the specifications herein.

The liners will be inspected by the Corporation. A cost of any repairs to the liner which may be required, would be negotiated with the Contractor. The Corporation reserves the right to hire an outside Contractor to do any repairs.

1.35 Equipment Testing

The Contractor shall adjust and test all material and equipment supplied under this Contract to the satisfaction of the Corporation before the facilities are put into operation.

After all material and equipment has been tested and adjusted, the facilities shall be considered ready for initial start-up, and the Contractor may request the commencement of the 30-day operation period.

1.36 Acceptance of the Work

Once all work has been completed, including final clean-up and the satisfactory 30-day Operation Period and inspection by the Corporation, the Corporation will issue the Certificate of Acceptance of the Work.

"Acceptance of the Work" shall mean the acceptance of the work for final payment of the contract price, excluding the 2% guarantee amount.

"Acceptance of the Work" shall not be for the purpose of extinguishing any covenant or agreement on the part of the Contractor to be performed or fulfilled under this contract which has not in fact been performed or fulfilled at the time of such acceptance, all of which covenants and agreements shall continue to be binding on the Contractor until they have been fulfilled.

The date of completion of the work shall be the date on which the Corporation issues the certificate.

1.37 Cleaning Up

The Contractor shall not allow the site of the work to become littered with trash and waste material, but shall remain in a neat and orderly condition throughout the construction period. On or before the completion of the work, the Contractor shall tear down and remove all temporary structures built by him and shall remove rubbish of all kinds from any of the ground which he has occupied and leave them in first-class condition to the satisfaction of the Corporation.

1.38 Guarantee

The work shall be guaranteed by the Contractor for a period of one year from the date of the certificate of acceptance. The Contractor, on receipt of notice in writing from the Corporation, shall promptly make all repairs arising out of defective materials, workmanship and equipment.

The Corporation is hereby authorized to make such repairs if, ten (10) days after the giving of such notice to the Contractor, he has failed to make or undertake with due diligence said repairs. However, in the case of an emergency where, in the opinion of the Corporation, delay could cause serious loss or damage, repairs may be made without notice being sent to the Contractor, and all expense incurred in connection therewith shall be charged to the Contractor.

The Corporation will withhold two percent (2%) of the contract price, interest free, for the duration of the guarantee period as set out in Section 10 - Payment. The Contractor may substitute an irrevocable letter of credit for the 2% holdback.

1.39 Information to Surety

The Corporation will be at liberty to convey from time to time to Surety named in any bond issued in connection with this Contract, such information concerning the work or other matters relating to the Contract as the Corporation may deem appropriate.

1.40 Cooperation

The Contractor shall cooperate with Corporation officials and its servants.

Coordination meetings between the Corporation, its agents, the Contractor, and his sub-contractors shall be held at the site of the work. These meetings shall be held in order that the Corporation is appraised of the status and progress of the work and to enable all interested parties to arrange to coordinate their work with that of others. The meetings shall be convened by the Engineer and minutes will be kept by the Engineer.

1.41 Construction Sign

The Contractor shall provide a project sign at the plant entrance. The sign shall be approximately 1.25 m x 2.5 m in size and shall be erected and maintained throughout the construction period. It shall be removed when directed by the Corporation. The sign shall contain as a minimum the name of the project, Corporation's name, Engineer's name, Contractor's name and the major subcontractor's name. Submit layout of sign for review prior to construction and erection.

1.42 Substitutions

No changes from specified or approved materials will be permitted unless the Contractor can demonstrate:

1. A change is required to meet schedules.
2. The alternative equipment is equal or better.
3. A savings in cost to the Corporation.

In any case, the Corporation will make the final decision on a substitution.

1.43 Protection of Materials and Equipment

(1) General

Materials and equipment shall be shipped, handled, stored, and installed in ways that will prevent damage to the items. Damaged items will not be permitted as part of the work except in cases of minor damage that have been satisfactorily repaired and are acceptable to the Corporation. Progress payments as provided for in Section 48 of the General Conditions of Contract will be withheld on equipment and piping not complying with the following provisions.

(2) Pipe

Pipe and appurtenances shall be handled, stored, and installed as recommended by the manufacturer. Pipes with soft coatings such as coal tar enamel, paint, or the like shall be stored to protect the coating from physical damage or other deterioration and shall only be handled with padded, wide slings. Pipes shipped with interior bracing shall have the bracing removed only when recommended by the pipe manufacturer.

(3) Equipment

(a) Definition

For the purpose of this article "equipment" means any mechanical, electrical, or instrumentation devices and other items with one or more moving parts.

(b) Packing and Marking

All equipment shall be adequately and effectively protected against damage from moisture, dust, handling, or other cause during transport from manufacturer's premises to site. Each item or package shall be clearly marked with the number unique to the specification or drawing reference covering the item. Each separate portion of plant shall receive, as far as practical, a fitting or distinguishing mark which shall be shown on the packing lists.

Stiffeners shall be used where necessary to maintain shapes and to give rigidity. Parts of equipment shall be delivered in assembled or sub-assembled units where possible.

(c) Identification of Equipment

Each item of equipment and valve shall have firmly and permanently affixed to it a label or tag with its equipment number designated in this contract or other similar discrete identifying mark. Marker shall be of non-corrosive metal or as otherwise approved by the Corporation.

(d) Storage of Equipment

During the interval between the delivery of equipment to the site and installation, all equipment shall be safely stored in a manner acceptable to the Corporation. Equipment shall be stored in an enclosed space affording protection from weather, dust and mechanical damage and providing favourable temperature, humidity and ventilation conditions to ensure against equipment deterioration. Manufacturer's recommendations shall be adhered to in addition to these requirements. Equipment shall be readily available for inspection.

(e) Protection of Equipment after Installation

After installation, all equipment shall be protected from damage, including but not limited to damage due to dust, abrasive particles, debris and dirt generated by the placement, chipping, sandblasting, cutting, finishing and grinding of new or existing concrete, terrazzo and metal; and the fumes, particulate matter, and splatter from welding, brazing and painting of new or existing piping and equipment. During concreting, including finishing, all equipment that may be affected by cement dust must be completely covered. During painting operations, all grease fittings and similar openings shall be covered to prevent the entry of paint. Electrical switchgear and motor load centres shall not be installed until after all concrete work and sandblasting in those areas have been completed and accepted and the ventilation systems installed.

(4) Delivery of Material or Equipment

The Corporation's personnel will not accept materials or equipment deliveries for the Contractor.

1.44 Contractor Responsibility for Coordination of Subtrades

The Contractor is responsible for all aspects of the work including supplying of all labour, materials and equipment for completion of the work regardless of the use of subtrades, sub-contractors or equipment suppliers unless otherwise shown as to be provided by others. Use of subtrades, sub-contractors and equipment suppliers to undertake portions of the work does not reduce the Contractor's responsibility to complete the final operating process, plant and structures.

When subtrades are used, the Contractor is to supply complete information to sub-contractors, and

equipment and materials suppliers. Where both specifications and drawings are required to provide complete information on any aspect of the work, the Contractor shall supply both to the sub-contractor and/or supplier concerned. Where errors, omissions or conflicts in the drawings occur, the Contractor is referred to Clause 22 of the General Conditions and shall resolve all conflicts related to the conditions covered by this clause. The Contractor is responsible for coordinating all activities of the sub-contractors, sub-trades and equipment suppliers to ensure that equipment layout, piping, electrical conduits and all equipment and materials are properly scheduled and installed without conflict or claim for additional cost. Conflicts will not be considered as a change in scope.

**NAK'AZDI BAND/DISTRICT OF FORT ST. JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SPECIFICATIONS

SECTION 2 - EARTHWORK

2.01 Scope of Work

Earthwork includes all plant, labour, equipment, appliances and materials required or necessary to clear, grub, strip, fill, stockpile, dewater, excavate, trench, backfill, and grade for the construction of all structures, pipelines and appurtenant work as shown and/or specified. All clearing, grubbing, stripping, fill placing, excavation and other earthwork shall be completed to the lines and grades as shown or as directed.

2.02 General Requirements

(1) Control of Water

The Contractor shall furnish, install and operate all necessary machinery, appliances and equipment to keep all excavations free from water during construction.

The dewatering system shall comply with Section 1.24.

During construction, excavation, and backfilling, the dewatering shall be performed in a manner and sequence that will provide drainage at all times.

If, for any reason, failure of the dewatering system results in flooding of the excavation, the Contractor shall at no cost to the Corporation, lower the water table, excavate any loose material below the foundation level and backfill with general fill, crushed gravel or concrete as instructed by the Corporation.

(2) Shoring and Bracing

When shoring, bracing, sheeting or other supports are necessary, they shall be furnished, placed, maintained and removed by the Contractor as required by WCB regulations.

(3) Removal of Obstructions

The Contractor shall remove or cause to be removed all obstructions of whatsoever kind or character, whether natural or artificial, encountered in construction of the work. Material that is removed as specified, and is not to be incorporated in the work, shall be disposed of by the Contractor.

(4) Protection of Existing Structures

Where excavation for new structures or pipes is adjacent to or extends below existing foundations or piping, the existing foundations and piping shall be shored, sheeted or otherwise braced to prevent any movement of the existing foundation and piping.

(5) Excess Excavated Material

Excess excavated material shall be stockpiled within the area designated by the Corporation. Before using this site the Contractor shall remove all trees and vegetation. Rock, granular and other materials shall be kept in separate stockpiles.

(6) Disposal of Unsuitable Material

Any unsuitable material shall be disposed of off site to a location selected by the Contractor and approved by the Corporation. The cost of disposal of unsuitable materials shall be included in the tendered price.

(7) Protection of Environment

Protection of the environment, and in particular the water courses specified in Section 1.24 shall be strictly enforced.

(8) Testing of Compaction

The Corporation will carry out tests on the compaction of bedding, sub-base, base and fill materials during construction and also after completion of the construction. If the compaction is found not to be in accordance with the terms of the Contract the Contractor shall, if requested, make good the work and the cost of these tests shall be charged to the Contractor.

If the compaction is found to be in accordance with the terms of this contract the cost of these tests shall be borne by the Corporation.

2.03 Clearing, Grubbing and Stripping

Area in which new septage receiving station and access road is to be constructed shall be cleared, grubbed, and stripped.

(1) Definition:

Clearing consists of cutting and disposing of timber, brush, logs, surface vegetation and rubbish to accommodate work.

Grubbing consists of removing stumps and roots, buried logs and similar organic material, and material foreign to the overburden.

Stripping consists of removing all topsoil, roots and other objectionable material to expose underlying soils.

(2) Burning

Burning of wood waste will not be permitted. All wood waste shall be transported to the Regional Transfer Site located in the District of Fort St. James. Contractor shall assume all transport and disposal fees.

(3) Delineation

Areas where clearing, grubbing and stripping is required will be delineated by the Corporation by flagging or use of other survey marks. Obtain approval of the Corporation before commencing work. Perform work only in specified areas.

(4) Clearing

The Contractor shall clear all trees, shrubs, debris and all other material including fallen trees and logs from areas specified to be cleared. Trees cleared from such areas shall be cut off not higher than 300 mm above existing ground, measured on the uphill side. Cleared materials shall not be pushed or felled into areas not designated to be cleared.

(5) Grubbing

Grubbing shall consist of removing stumps and roots, buried logs, similar organic material, structure foundations and material foreign to the overburden. Grubbing shall include the transportation of grubbed material to the disposal area.

(6) Stripping

Areas in which structures, pipelines, cells, embankments and graded areas are to be constructed shall be stripped of all topsoil, and other objectionable material to expose underlying soils.

(7) Disposal of Debris

All debris resulting from clearing and grubbing shall be disposed off to a site located by the Contractor and approved by the Corporation. The cost of disposal of debris shall be included in the tendered price.

The top soil shall be stored at the Corporation designated area for the re-use as specified in this contract.

2.04 Fill Materials

(1) General

It is the intent of this Contract that excavated material shall be used for fill, backfill and construction of berms as much as possible. The use of imported materials shall be specifically authorized by the Corporation.

The Contractor shall provide all fill materials required under the Contract. The Contractor shall submit satisfactory samples of all the imported materials and related sieve curves for the Corporation's review and approval.

(2) Excavated Material

The native materials are specified hereafter.

i) Type 1 - General Fill Material

This material shall be native excavated material consisting of granular material with rocks larger than 300 mm in any dimension removed.

ii) Type 2 - Selected Fill Material

This material shall be native excavated material consisting of granular material with rocks larger than 75 mm in any dimension removed.

(3) Imported Materials

When instructed by the Corporation the Contractor shall import materials for specific uses. The following material categories are specified:

i) Type 4 - General Imported Fill Material

General imported fill which shall consist of well graded granular material which contains no stones which exceed 150 mm in diameter and not more than 10 percent passing a 0.075 mm (#200 sieve). Imported backfill shall comprise material which has no stumps, roots, organic or other objectionable material and which can be compacted as specified.

ii) Type 5 - Selected Imported Fill Material

Selected imported fill material shall consist of well graded granular material which contains no stones which exceed 75 mm in diameter and no more than 10 percent passing a 0.075 mm (#200 sieve). Imported backfill shall comprise material which has no stumps, roots, organic or other objectionable material and which can be completed as specified.

iii) Type 6 - Road and Sub-Base Material

This material shall be used for gravel pavement and as a sub-base under concrete slabs and footings and the asphalt liner. It shall be a well-graded mixture of crushed gravel stone which, when tested in accordance with the latest edition of ASTM C136 shall meet the following gradation requirements.

USBS Sieve Size (mm)	Passing Percent by Weight
19	100
9.5	60 - 95
4.75	40 - 70
2.36	30 - 60
1.18	20 - 45
0.30	8 - 20
0.075	2 - 9

iv) Type 7 - Imported Rock Rip Rap Bank Protection

Rip-rap shall be quarried rock and shall be well graded, in conformance with the gradations shown herein. Neither the breadth nor the thickness of any individual piece of rip-rap shall be less than one-third of its length. Thin, flat pieces of rock will not be permitted. The inclusion of objectionable quantities of sand, soil, and rock fines or organic material will not be permitted.

Acceptable quarry rock shall weigh not less than 2.4 tonnes per solid cubic meter, as computed by multiplying the specific gravity (bulk saturated surface-dry basis, ASTM Test C127) times 1 tonne per cubic metre.

Rock for rip-rap shall be sound and durable and of a suitable quality to ensure permanence in the structure and the climate in which it is to be used. It shall be free from cracks, seams and other defects that would tend to increase unduly its rate of deterioration from natural causes.

The gradation of the rip-rap shall be as follows:

100% smaller than 450 mm
at least 20% larger than 350 mm
at least 50% larger than 300 mm
at least 80% larger than 200 mm

v) Type 8 – Filter Material

This material shall be well graded granular material which contains no stones exceeding 100 mm in size and having a sand content <35%.

Filter particles shall be angular not rounded.

vi) Type 9 - Drain Rock

Drain rock shall be clean rock meeting the following gradation requirements.

USBS Sieve Size (mm)	Passing Percent by Weight
25	100
20	2 - 6

vii) Type 10 – Bedding Material

Bedding material shall be granular in nature, shall be relatively free of organic material, silt or clay, and shall compact readily.

Bedding material shall be evenly graded from coarse to fine, with a maximum size of 19 mm and a maximum of 10 percent passing a No. 10 USBS (2 mm USBS) sieve.

The Corporation will consider approval of a finer bedding material provided that this material would compact readily under trench conditions to the specified density.

Bedding material for the electrical ducts and cables shall be sand.

viii) Type 11 – Sand

This material shall be 4.75 mm minus sand.

2.05 Fill Material Schedule

The following schedule indicates the specified uses for various fill materials.

FILL MATERIAL SCHEDULE

Work Description	Type of Material	
	Native	Imported
Fill or backfill located more than 1 metre from structures, piping and roads.	1	4
100 mm thick layer under concrete slabs and footings and asphalt liner.	--	6
Fill or backfill within 1 metre of structure walls, above pipe bedding and within 1 metre of pipes (as measured horizontally from the pipe outside wall).	2	5
Pipe bedding extending 150 mm below the pipe, 200 mm above the pipe barrel and 300 mm as measured horizontally from the side wall at the pipe to the top of bedding.	--	10
Gravel road surface.	--	6
Core of berms around cells.	1	4
300 mm thick surface layer on the face of the berms over Type 1 or Type 4 material, road sub-base material.	2	5
Drain rock to be used as directed by the Corporation.	--	9
Toe of bank protection	--	7
Bank protection	--	7
Filter material under the bank protection to be used as directed by the Corporation.	--	8
Bedding of electrical cables and ducts, sand base under HDPE liner.	--	10

2.06 Compaction

Compaction limits specified in this Contract refer to Modified Proctor Density test conforming to ASTM D1557, or to equivalent degree of compaction in materials for which the Modified Proctor Density test is not applicable.

2.07 Excavation for Structures

The Contractor is responsible for selection of suitable equipment and methods of construction and dewatering for all excavations. The Contractor shall excavate for all structures. Excavation and shoring shall comply with Workers' Compensation Board regulations.

Excavation shall be such that it leaves a firm and even surface of undisturbed subgrade true to the required subgrade elevations.

Where considered necessary by the Corporation, the earth slopes and bottoms of the excavation shall be trimmed by hand. The last 75 mm above the subgrade of footings shall be loosened and removed by hand tools if, in the opinion of the Corporation, excavating does not leave an undisturbed subgrade surface.

The Contractor shall excavate under all concrete structures and place a minimum of 100 mm layer of Type 6 material compacted to 95% Density. The base shall extend a minimum of 300 mm beyond the footings.

Excavation shall extend a sufficient distance from walls, footings and pipes to allow for placing and removal of forms and shoring, installation of services and for inspection.

Prior to placing footing or slab concrete for structures, subgrade shall be compacted to achieve an average density, within the upper 500 mm of the subgrade, equivalent to 95% Density.

Where due to negligence, weathering or wearing, subgrades are lowered below the specified depths, the Contractor shall backfill such spaces with the specified fill material or concrete at no cost to the Corporation.

The Corporation will inspect and approve all subgrades prior to the Contractor placing crushed gravel and pouring concrete.

2.08 Fill or Backfill Placement Under Structures and Roads

Under the structures and roads the fill or backfill shall be placed as follows:

- (1) Fill or backfill material shall be as specified in Section 2.05.
- (2) Fill or backfill shall be placed in horizontal layers not exceeding 300 mm.
- (3) Fill or backfill shall be compacted to 95% Density under the structures and to 95% Density under the roads.
- (4) Compacted fill or backfill shall extend beyond the footprint of structures or roads for a distance equal to the depth of fill or backfill or for 300 mm minimum.
- (5) A 300 mm layer of the sub-base Type 5 material, compacted to 95% Density shall be placed under all gravel roads.

2.09 Excavation and Backfill for Pipelines and Electrical/Instrumentation Cables and Ducts

- (1) Unless otherwise specified excavation for pipe and electrical/instrumentation ducts and cables (both designated as "pipe" in this Section) shall be dry open cut. Trenches shall be

excavated at least 100 mm below the barrel of pipe.

- (2) Trench Width. The maximum width of trench measured 300 mm above the top of the pipe shall be the outside diameter of the pipe exclusive of bells and collars, plus 600 mm, and such maximum width shall be inclusive of all trench timbers. A minimum of 150 mm shall be maintained between pipe and trench wall. A minimum of 200 mm shall be maintained between any two pipes. The cables and ducts shall be spread to conform the applicable electrical codes and requirements.
- (3) Trench Bracing. Excavation shall be shored as set forth in the rules, orders and regulations under the Worker's Compensation Act of British Columbia.
- (4) Pipe Bedding. After the pipe has been properly laid and approved, Type 10 material shall be placed around and over the pipe to a depth of 200 mm over the crown of the pipe and thoroughly consolidated.

Prior to laying the pipe a layer of Type 10 bedding material shall be placed in the trench bottom and compacted to the grade of the pipe barrel by hand or mechanical means to form a firm base. The bedding material shall cover the full width of the trench bottom and have a minimum depth of 100 mm on completion of compaction. Compaction shall be to 95% Density. Special care to achieve maximum compaction shall be taken at any unyielding foundation for at least two pipe lengths away from such unyielding foundation.

Depressions shall be formed in the compacted bedding material for pipe bells or couplings in such a manner that the full barrel is evenly supported throughout its length by the bedding material.

After the pipe is laid on the gravel base, further bedding material shall be placed by hand around the pipe and be thoroughly compacted with hand tampers in layers having a maximum depth of 150 mm, to the same level as the top of the pipe. Bedding material at this point shall completely fill the void between the pipe and trench wall and shall be firmly compacted throughout. Care shall be taken in compacting above pipe invert grades to ensure that the pipe is not shifted laterally or vertically.

Bedding material may be dumped directly in the trench in locations where the pipe has already been covered, in volumes not exceeding one half of a cubic meter and shall be spread evenly by hand to a thickness not exceeding 150 mm per layer. Each layer shall be compacted to 95% Density against the trench wall while the material immediately over the pipe shall be left loose. Flat tampers shall be used for this compaction. The bedding material shall be levelled off 200 mm above the top of the pipe.

- (5) Electrical Cable and Duct Bedding

The electrical cables and conduits shall be embedded in Type 11 sand material.

The conduit or pipe shall then be backfilled.

- (6) **Backfill.** Above the level of the bedding material, the trench or excavation shall be filled with fill material conforming to Type 2 or Type 4. Material shall be placed in layers not exceeding 600 mm in loose depth, each layer being thoroughly compacted to 90% Density except where pipes are installed below or adjacent to structures or roads where requirements of Section 2.08 shall apply to trench backfill.

2.10 Installation Of Aeration Piping and Manhole Sumps Within Existing Berms

(1) General

When excavating through the existing berms for the new aeration piping and manhole sumps, the Contractor shall take the necessary precautions to ensure minimal disturbance of the existing clay liner. The Contractor shall provide 48 hours written notice to the Corporation prior to excavation of any existing berms. The clay liner and gravel cover shall be reinstated by the Contractor to the satisfaction of the Engineer following installation of the aeration piping.

2.11 Removal of Sludge from Cells No. 1, 2 and 3

According to the Corporation measurements, Cells No. 1 and 2 contain approximately 1.2 metres of sludge and Cell No. 3 is estimated to contain approximately 0.3 metres of sludge.

The Contractor shall use a qualified Subcontractor to perform the sludge removal work and bear all related costs associated with the removal, transport, and disposal of the sludge.

All sludge shall be lawfully disposed at a waste facility that is licensed to receive the material. The Corporation has undertaken sampling of sludge from all three cells. The results of the laboratory analyses of these samples shall be made available to the Contractor.

As part of the Tender submission, the Contractor shall provide unit pricing on a per volume basis for the removal of sludge in excess of the collective volume indicated above.

The work shall be coordinated by the Contractor.

2.12 Finished Site Grading

All areas of the site shall be finished to the final lines and grades as shown on the drawings and as specified. The finished surface shall be uniformly compacted and shall be smooth and free from any irregular surface changes. Areas of the site in which the original topsoil has been disturbed by the construction shall be restored with topsoil as available. Generally the finished surface shall be not more than 60 mm above or below the established or prescribed grade. In any case, areas shall be sloped to shed surface drainage away from structures.

2.13 Seeding

All the areas presently covered with grass and disturbed during the construction shall be seeded to the original or better condition.

Before seeding, a 100 mm compacted topsoil shall be spread by the Contractor over the subject area. Generally the finished surface shall be not more than 25 mm above or below the established grade.

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SPECIFICATIONS

SECTION 3 - CONCRETE

3.01 Scope

Concrete work includes all the supply of materials and operations necessary for the supply and construction of all reinforced and unreinforced concrete structures.

Excavation for concrete work is specified in Section 2.

3.02 General Requirements

All concrete work shall meet the requirements of the current issue of CAN3-A23.1. The concrete supplier and the Contractor shall have a copy of this Standard available for reference at the batch plant and at the site of the work.

Concrete work in place shall conform to the required lines, elevations, dimensions and details and shall meet the minimum strengths specified.

Concrete shall not be placed in any part of the work until that part has been inspected and approved by the Corporation as ready for concreting.

Two days notice shall be given to the Corporation by the Contractor when he considers that any foundation, reinforcing or form will have been properly and finally prepared so that the Corporation may arrange to make the necessary inspection.

All surfaces upon or against which concrete is to be placed shall be thoroughly cleaned of dirt, mud, debris, snow, frost, ice, grease, oil other than form oil, dried mortar or grout, loose particles or other deleterious matter. Concrete shall not be placed on frozen foundations, and all forms and foundations shall be free of standing water.

All forms shall be of new material unless otherwise approved.

Concrete work shall be free from all defects which will impair its strength, impermeability, durability and appearance. All concrete which, in the opinion of the Corporation is defective or inferior, shall be forthwith removed and replaced or otherwise remedied to the satisfaction of the Corporation.

The Contractor is to note that the concrete will be subject to hydrostatic pressure and potential corrosive water and an appropriately high quality of concrete and high quality of workmanship in placing and consolidating is required.

The Contractor shall note that some of the existing concrete requires cutting and/or extending, and/or some holes require infilling. Refer to drawings for details.

3.03 Materials for Concrete

All concrete materials shall be used as recommended by the manufacturer.

(1) Cement

Cement shall be Type 10 (normal) meeting the requirements of the current CSA Standard Can 3-A5. One mill source shall be used throughout the work.

The Corporation will consider application from the Contractor for the use of Type 30 where early strength is desirable. No increase in the contract price will be permitted for this change.

(2) Concrete Aggregates

Sand for concrete and grout will conform to CSA Specification CAN3-A23.1.5.3. It shall be uniformly graded from fine to coarse and have a "fineness modulus" between 2.5 and 3.0.

Coarse aggregate shall conform to CSA Specification CAN3-A23.1.5.4. It shall be uniformly graded and relatively free of thin, flat, elongated particles.

(3) Water

Water shall be any potable water, clean and free from injurious amounts of oil, acid, alkali and organic materials.

(4) Admixtures

(a) Air-Entraining Agent

All concrete shall contain an air-entraining agent meeting CAN3-A266.1. The total air content, including any entrapped air, shall be within one percent (1%) of that specified below:

Maximum Size of Aggregate (mm)	20	28	40
Total Air Content (percent)	6	6	5

(b) Water Reducing Agent

The Contractor may use a water reducing agent in the concrete upon permission from the Corporation. The Contractor shall, on application for permission to use such an admixture, state the brand name, chloride-ion content, the amount of admixture he proposes to use,

and shall furnish a reference from a recognized testing laboratory. The agent shall conform to CAN3-A266.2.

(c) Pozzolan

Pozzolan shall meet the requirements of CAN3-A23.5, Type N, or C, or alternative approved by the Corporation. All concrete shall contain Pozzolan substituted for 15% of the cement.

(d) Other Admixtures

No other admixture will be used without approval of the Corporation. Calcium chloride will not be considered. If super plasticizing admixtures are proposed, their use shall be in accordance with CAN3-A266.5.

(5) Reinforcing

Reinforcing bars shall be Grade 400 deformed, billet-steel bars conforming to CSA G30.12 with minimum yield of 400 MPa.

All reinforcements shall be new stock.

Bending of reinforcement shall be in accordance with CSA Specification CAN3-A23.1.12. Heating of bars to facilitate bending will not be permitted. Reinforcing steel shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the drawings shall not be used.

No bars partially embedded in concrete shall be field bent.

(6) Concrete Accessories

(a) Tie Wire

Wire for tying reinforcement shall be black annealed iron wire not less than 1.6 mm.

(b) Form Ties

Form ties shall be rods with a seepage collar and 25 mm x 25 mm plastic cones suitable for use in hydraulic structures.

(c) Reinforcing Bar Supports

The reinforcement for roof and floor slab shall be held accurately in position with wire chairs, bolsters, or spacers not less than 5.6 mm, having galvanized or plastic-coated legs. Reinforcing on grade shall be supported by concrete bricks.

(7) Concrete Curing Compound

The liquid membrane-forming compound required for curing the concrete shall conform to ASTM C.309 Specifications for Liquid Membrane-Forming Curing Compound for Concrete. It shall be a curing compound with a chlorinated rubber case.

(8) Waterstops

Waterstops embedded in the concrete shall be 100 mm wide ribbed-type polyvinyl chloride, Burke Vinylok RB316-4 or equal, except as noted. Waterstops shall be spliced and installed in accordance with the manufacturer's recommendations.

The top of horizontal water stops shall be wired or clipped to rebars every 450 mm. Ties shall be to rebars on alternative sides of the water stop along its entire length. All joints below grade shall have water stops.

(9) Patching Mortar

Patching mortar shall be composed of Type 10 Portland Cement, fine aggregate and water. The fine aggregate shall conform to CSA Specification CAN3-A23.1.5.3-M77 except that it shall be graded so that 100 percent by weight shall pass a standard 2.5 mm sieve and at least forty-five percent (45%) by weight shall pass a standard 0.63 mm sieve. The mixture shall consist of 1 part cement, 2 parts sand and shall have a consistency that will suit the application.

Patching mortar shall be used as soon as possible after mixing. Any mortar mixture which has become too stiff for use shall not be retempered with water but shall be wasted.

(10) Grout

Grout shall be the normal concrete mix with 50% of the coarse aggregate removed and the slump increased to 150 mm. This grout shall be placed in the bottom 150 mm of all walls.

(12) Precast Sections and Lids

Manhole sections shall be precast reinforced concrete conforming to ASTM C-478. Sections for the manholes shall have tongue and groove ends.

Lids and bases for precast sections and precast lids for manholes shall be precast reinforced concrete designed for H-20 loading.

(13) Precast Concrete Lock Blocks

Concrete lock blocks shall be nominally 1500 mm x 1500 mm x 750 mm.

Lock blocks shall be the standard products supplied by United Lock-Block Ltd., Richmond, B.C. or approved equal. Alternatively, where available and approved by the Corporation, the Contractor may source local, used Lock-Blocks of satisfactory condition.

Lock blocks shall be installed as per manufacturer's recommendations and in conformance with the configuration shown on the drawings.

(13) Concrete Bond Breaker

Sika-Seal manufactured by Sika Chemical Company shall be used for breaking the bond between the concrete footing slab and the sills.

(14) Bonding Agent

Duraweld as supplied by Grace Construction Materials or approved equal. Bonding agent shall be applied to all joint surfaces between new concrete and concrete previously poured by others.

3.04 Properties

(1) Composition

Concrete shall be composed of cement, fine aggregate, coarse aggregate, water and admixtures as required and permitted, and shall be proportional and mixed as hereinafter specified so as to produce workable, strong, dense, impermeable concrete having the specified strengths and consistencies.

(2) Classes of Concrete

The nominal ultimate 28-day compressive strength, the maximum size of the coarse aggregate and the slump of the concrete for the various parts of the work, as specified, shall conform to the following table:

Class Area	28-Day Comp. Strength	Max. Size Aggregate mm	Slump 10 mm	Max.* W/C Ratio	Air Content 1%
A Structural Concrete	30 MPa	20	60	0.45	6
B Mass Concrete (where specified)	15 MPa	28	80	--	6

NOTE:* Water: Cementitious ratio, where specified, expected to control cement content.
(Cementitious = Cement + Pozzolon)

(3) Mix Designs

The Contractor shall submit proposed mix designs to the Corporation for approval. The mix designs shall set out in detail the gradation of aggregate, the proportions of all ingredients by weight, and the average expected 28-day compressive strength. The amount of water in the concrete shall not be greater than that necessary to obtain the specified consistency.

All concrete for walls shall be pumped.

Before submitting the mixture design, trial mixes shall be prepared in accordance with the mix design for all concrete classes and four standard compression test cylinders shall be made from these trial batches. Two cylinders shall be tested at seven days and two at twenty-eight days. Testing shall be in accordance with the current CSA Specification CAN3-A23.2 Methods of Test for Concrete. Certified copies of the test results shall be submitted to the Corporation with the mixture designs.

The mixtures shall be so designed that the probability of the 28-day ultimate compressive strength being lower than the nominal ultimate 28-day compressive strength, as specified in sub-section (2) above, shall not be greater than the limits specified in the following sub-section (4). If testing by the Corporation indicates that the approved mixture for any class of concrete will not give strengths within the required limits, the Corporation may withdraw its approval of the mixture designs. In such a case the Contractor shall not place any more concrete of that class until a revised mixture design has been submitted to and been approved by the Corporation.

(4)

(7) Placing

The Contractor shall give 72 hours notice in writing to the Corporation as to when placing of concrete is to be performed. Unless inspection of placement is waived by the Corporation in each specified case, placing of concrete shall be performed only in the presence of the Corporation and only after approval by the Corporation. No concrete shall be placed under water.

Concrete shall not be placed in rain or snow without the written permission of the Corporation, and such permission will be subject to the provision by the Contractor of adequate protective cover for the work.

Concrete shall be conveyed from the mixer to the place of final deposit as rapidly as possible in a transit mix truck of such construction that shall prevent the separation or loss of ingredients. It shall be deposited in the forms as nearly as practicable in its final position with lifts not over 450 mm high so as to maintain an approximately horizontal plastic surface. Concrete shall not be dropped more than 1.5 m unless a suitable chute or tube is used. Forms for wall or other sections of considerable height, shall be provided with

openings, or other devices shall be used which will permit the concrete to be placed in a manner which will avoid accumulations of hardened concrete on the forms or metal reinforcement. Under no circumstances shall concrete that has partially hardened be deposited in the work. Temporary joints shall not remain exposed for more than 45 minutes before adjacent concrete is placed unless otherwise approved by the Corporation. All concrete for tank walls and building walls shall be pumped.

The Contractor shall submit a written application stating the type of pump, mix designs, and placing procedures to the Corporation for approval. Sampling and testing will be at discharge from the pump hose. Proportioning of the mix shall remain the same as the concrete specified in Section 3.04(2).

Immediately before they are covered with the specified concrete and unless agreed otherwise, all approximately horizontal surfaces of construction joints shall be covered with a 150 mm layer of concrete, with the following properties. This concrete shall have the same proportions of cement and sand as the regular concrete mixture with \square of the coarse aggregate omitted and the mix shall have a slump of 130 mm. It shall be consolidated before additional concrete is deposited. (Note: An alternative to placing the weak mix concrete would be to use a retardant as specified in 3.03 (10).)

To allow adequately for shrinkage, concrete closure sections in structures shall not be placed until seven (7) days after placement of concrete on either side of the closure.

Each layer of concrete shall be consolidated to the maximum practicable density free from pockets of coarse aggregate and closing snugly against all surfaces of forms and embedded materials. All concrete shall be consolidated with the aid of suitably design power vibrators of the immersion type, operating at a speed of at least 7,000 revolutions per minute when immersed in the concrete.

To secure even dense surfaces which are free from aggregate pockets (honeycomb) or air holes, internal vibration in walls shall be supplemented with form vibration and hand spading at corners and angles, and where the sections are thin or the spacing of reinforcement is close, and around waterstops. For the placing of lining and roof slab effective vibrating screens shall be used.

Internal vibrators shall be kept constantly moving in the concrete and shall be applied to points uniformly spaced not farther apart than the radius over which the vibrator is visibly effective but in any case not more than 600 mm. Where fresh concrete is placed against other concrete which has attained an initial set, the vibrators shall be inserted into the stiffened concrete to effect revibration and intermixing in the contact zone so that the occurrence of "cold" joints" will be avoided. The vibrators shall be lowered at least 75 mm into all previously placed layers of concrete and slowly raised to the surface.

Care shall be taken to avoid, insofar as practicable, contact of the vibrating heads with the forms, and to avoid disturbing the reinforcement and displacing the waterstops.

Excessive vibration causing segregating or tending to bring an excessive amount of water to the surface shall be avoided.

The Contractor shall, at all times, keep spare vibrators on the job. Vibrators shall at all times be kept in first class condition and any vibrator which, in the opinion of the Corporation, does not produce the desired result, shall be removed from the site of the work immediately and replaced with one that is suitable.

Installation of mechanical and electric equipment shall be accomplished by employing shores, bearing plates, frames, cranes and temporary beams, or other approved means.

Concrete shall be deposited as near to its final position as is practicable, and shall not be made to flow in a manner which will cause segregation. A maximum lift of concrete shall not exceed 450 mm. Depositing of a large quantity at any point (coning) and running or working it along will not be permitted. Methods and equipment for placing shall permit close regulation of the amount of concrete building deposited and shall be such as to prevent excessive segregation caused by allowing the concrete to flow in a thin stream, or to be discharged with too great a force, or to fall freely from too great a height, or to strike against forms or reinforcement. Chutes for placing concrete shall be baffled and their length shall not exceed 10 metres. Their slopes shall not be greater than 1.5 horizontal to 1 vertical. Concrete shall not be dropped from a height in excess of 1.5 metres.

3.06 Forms

(1) Construction

The Contractor shall provide, erect and maintain all forms to confine the concrete within the neat lines shown on the drawings. Forms shall be so constructed that the finished concrete surfaces shall be of uniform texture of the type specified in Section 3.09. Exposed vertical and horizontal form joints shall be continuous and not staggered. Dimensional tolerances of construction shall be in accordance with Section 10 of CAN3-A23.1. All formwork and associated falsework to conform to CSA-S269.3 "Concrete Formwork", CSA-S269.1 "Falsework for Construction Purposes", and WCB requirements

Anchor bolts, pipes and other concrete inserts including waterstops shall be accurately positioned and securely held in place prior to the start of the pour.

Openings shall be provided in forms to permit inspection and cleaning, placing and compaction of concrete, and the forming and processing of construction joints.

Chamfers approximately 20 mm by 20 mm or as shown shall be formed at all concrete edges and re-entrant corners unless otherwise required by the Corporation.

Where embedded rods, snap-ties or other similar devices are used for holding forms, they shall remain embedded and shall terminate at least 25 mm back from the formed face of the concrete, leaving holes of regular shape for reaming; the holes shall be filled in accordance

with Section 3.10. Twisted wire ties shall not be used. Wooden spreaders, if used, shall not deface or deform the formwork and shall be removed as concreting operations proceed. The Contractor shall take all necessary precautions to prevent future leakage or seepage along ties in all walls, which will be subjected to water pressure.

At the time the concrete is placed in the forms, the surface of the forms shall be free from encrustations of mortar, grout or other foreign matter. All dirt, chips, sawdust and other foreign matter shall be removed from within the forms before any concrete is deposited therein. Before concrete is placed, the surface of the forms shall be oiled with a commercial form oil that will effectively prevent sticking and will not stain the concrete surfaces.

Immediately before concrete is place, precautions shall be taken to see that all forms are in proper alignment and are mortar-tight, and that all form supports are secure and tight.

(2) Classes of Forms

Forms shall be of the following classes and for the following uses:

Class II: Class II forms shall be waterproof, synthetic resin-bonded plywood specially made for concrete work, hardboard or steel. Class II forms shall be used for all exposed concrete surfaces where Type B finish is specified.

Class III: Class III forms shall be metal, plywood or smooth planed board, in good condition, free from large or loose knots or patches. Class III forms shall be used for formed surfaces not exposed to view, such as footings and backfilled walls.

(3) Removal of Forms

Forms shall be left in place until their removal is authorized by the Corporation, and shall then be removed with care so as to avoid injury to the concrete. The consent of the Corporation to removal of forms shall in no way relieve the Contractor of his obligations to delay removal of forms until the concrete has set sufficiently hard, and the Contractor shall make good, to the satisfaction of the Corporation, any damage arising from the removal of the forms.

In no case shall removal commence earlier than the following:

Side of footings	1 day
Vertical forms of walls, columns, beams	2 days
Supporting forms of slab and beams if shoring is provided	8 days
Shoring	21 days

(4) Reinforcing Steel

(a) General

Reinforcing steel and bar supports shall be cleaned thoroughly of all mill scale, loose rust, mortar, grease, form oil or other matter that might destroy or reduce the bond.

Reinforcement reduced in section shall not be used. No concrete shall be placed before the reinforcement has been inspected and approved by the Corporation. Where there is a delay in depositing the concrete, reinforcement shall be re-inspected and, when necessary, repositioned and cleaned.

Except as otherwise specified, reinforcement bars and their bending and placing shall conform to the applicable recommendations in the CRSI Manual "Recommended Practice for Placing Reinforcing Bars". CSA G30.18, "Billet-Steel Bar for Concrete Reinforcement", CSA-G30.15, "Welded Deformed Steel Wire Fabric for Concrete Reinforcement", "Reinforcing Steel Manual of Standard Practice" – Reinforcing Steel Institute of Canada

(b) Placing

Reinforcing bars shall be positioned accurately and secured against displacement by tying with annealed iron wire or fixing with suitable wire clips at alternate intersections. Bars in footings shall be supported on concrete blocks.

The Contractor shall have on hand, in addition to the support shown on the reviewed placing drawings, sufficient extra bar supports to provide additional support where in the opinion of the Corporation the specified concrete cover.

(c) Splicing

No reinforcing bars shall be spliced, except where shown on the drawings or approved by the Corporation.

All bar splices shall be lapped for the minimum bar splicing length shown on the drawings, and the lapped ends shall be drawn together with tie wire, in such a manner that the specified cover is maintained.

For the minimum anchoring lengths refer to the drawings.

3.07 Protection and Curing of Concrete

(1) Protection

Concreting in cold weather and the protection of concrete subjected to cold weather after placement shall be carried out in accordance with ACI Standard 306-66 "Recommended Practice for Cold Weather Concreting".

Concreting in hot weather and the protection of concrete subject to hot weather after placement shall be carried out in accordance with ACI Standard 305-72 "Recommended Practice for Hot Weather Concreting".

The Contractor shall have a copy of these standards available for reference on the site.

The Contractor shall protect all concrete against injury. The methods of protection and the equipment for protection of concrete shall be subject to the approval of the Corporation.

(2) Curing of Concrete

All exposed concrete surfaces shall be cured by being kept continuously wet for at least 7 days immediately following placement of the concrete. Walls with forms left on shall have a soaker hose on top of the wall keeping the walls continuously wet.

Slabs that are being moist cured shall be flooded or covered with moist burlap for a minimum of 7 days. Slabs that are not going to receive a topping or be covered with secondary concrete may be sprayed with curing compound in lieu of 7 days moist curing. The curing compound shall be applied immediately after finishing using at least one litre for every 6 m² of concrete surface. The liquid membrane curing compound shall be applied uniformly over the area with complete coverage at edges and curbs.

3.08 Grout

(1) Standard Grout

Standard grout shall be composed of Type 10 Portland cement, fine aggregate, and water. Fine aggregate shall be masonry sand conforming to CSA A82.56. The mixture shall consist of 1 part cement, 2 parts sand and shall have a consistency that will suit the application.

This grout shall be used to fill all small imperfections and snap tie holes on the inside walls and inside face of exterior walls.

(2) Non-Shrink Grout

Unless otherwise specified, all concrete, mortar and grout used in filling narrow spaces, holes or gaps between previously placed concrete of any structure, or in special cases as outlined in Section 3.11 shall be non-shrink, non-metallic, premixed type grout, mixed and installed in accordance with the manufacturer's directions.

Alternate No. 1: Embeco 636 Premixed Grout as manufactured by Master Builders. If the void exceeds 74 mm, in minimum dimension, up to 25 kg of 10 mm clean pea gravel may be added to each 45 kg of Embeco grout (premixed).

Alternate No. 2: In-Pakt Pre-Mix Grout supplied by Grace Construction products.

If the void exceeds 75 mm, in minimum dimension, up to 25 kg of clean 10 mm pea gravel may be added to each 32 kg bag of In-Pakt Pre-Mix Grout.

Alternate No. 3: Talygrout High Strength, Non-Shrink Epoxy grout supplied by Sternson.

For grouting reinforcing bars into existing concrete only Alternate No. 3 is acceptable.

3.09 Finishing and Finishes

The surfaces of concrete finished against forms shall be true, sound, smooth and free from fins, offsets, pits, voids, blemishes and other objectionable defects, except Type A finishes.

Exposed unformed surfaces shall be screened and floated to an even dense surface free from projecting stone, high spots and depressions.

The finishes to be given the various surfaces shall be as shown or as hereinafter specified. In the event that finishes are not clearly specified herein or shown in the drawings, the finish to be used shall be that specified for similar adjacent surfaces as determined by the Corporation. The finishes shall be as follows:

Type A: This finish shall apply to formed surfaces which are not exposed to view and where roughness is not objectionable. The surface will in general require no treatment after form removal other than repair of defective concrete, plugging of tie holes and specified curing.

Type B: The finish shall apply to formed surfaces which are permanently exposed for which finish Type D is not specified. This finish shall be smooth, dense, of uniform texture and free from offsets, fins, bulges, pits, voids, surface irregularities and blemishes. Surface imperfections up to 5 mm in any dimension are acceptable, the surface would not normally be sack rubbed.

Type C: Not Applicable.

Type D: (Screeded Finish). This finish shall apply to unformed surfaces not permanently concealed by fill material or concrete or not required to receive Finish E. In general, it should be applied to the aerated cell lining, all outside walls, platforms, ledges, curbs. Floating may be performed by the use of hand or power driven equipment. Floating shall be started as soon as the screened surface has stiffened sufficiently and shall be the minimum necessary to produce a surface that is free from screed marks and is uniform in texture. All walkway surfaces shall be followed by a broom finish. If Finish E is to be applied, floating shall be continued until a small amount of mortar without excess water is brought to the surface so as to permit effective trowelling. Joints and edges shall be tooled where shown on the drawings or as directed by the Corporation.

Type E: (Trowelled Finish). This finish shall be applied to the septage chamber and bar screen chamber floors and benching, all floors, bottom of channels, curbs and ledges and to other uniform surfaces as specified on the drawings and to surfaces where accurate alignment and evenness of

surface are required. Trowelled finish shall be applied to the floor slabs and channels and the septage and bar scree chamber floors and benching, and electrical and headworks room floors. Steel trowelling shall be started as soon as the floated surface has hardened sufficiently to prevent excess of fine material being drawn to the surface. Steel trowelling shall be performed with firm pressure such as will flatten the sand mixture of the floated surface and produce a dense uniform surface free from blemishes and trowel marks.

3.11 Pipes through Concrete

Where pipes or conduits are to pass through concrete the Contractor shall place pipes or conduits in the form before placing the concrete unless agreed otherwise. The location of all pipes and conduits shall be determined from shop drawings of equipment or from dimensions specified on the drawings or in the specifications. The location of all pipes or conduit passing through existing walls shall be field checked by the Contractor prior to coring to avoid conflicts with existing equipment or piping.

3.12 Equipment Bases

All equipment (such as pumps, valve pedestals, electrical enclosures etc.) shall be installed on a concrete pad.

3.13 Final Cleaning of Chambers and Manholes

Upon satisfactory completion of all the construction work and prior to testing, the Contractor shall completely remove waste, rubbish and dirt from structures, channels and manholes which form part of the work by brooming, blowing with air or other approved means and flush the entire surface with fire hoses. The Contractor shall supply the necessary pumps to flush the manhole with hoses. The hosing shall be supplemented by brooming to remove all remaining dirt and wastewater.

3.14 Watertightness and Testing

The chambers and manholes shall be filled with water to their respective maximum water levels specified below, prior to backfilling around the walls. There shall be no leakage (or wet and/or damp spots) through exposed walls. The leakage from any tank, wet well, manhole/sump shall not exceed a drop in water level during the test of more than 10 mm over a 24-hour period.

Should leakage exceed the allowable, then the leaks shall be found and the concrete repaired as specified in Section 3.10 or as otherwise directed by the Corporation.

Testing and additional repairs, if necessary, shall be repeated until satisfactory tests are conducted. All testing equipment and water shall be supplied by the Contractor.

3.15 Manhole Construction

Manholes shall be constructed where detailed on the Drawings and as set out in the field by the Corporation.

In general, concrete construction shall be in accordance with CSA A.23.

The bottom of manholes shall be shaped to provide drainage. The inside surfaces of all manholes shall have a smooth surface and neat appearance. Concrete manhole bases shall be constructed as shown on the Drawings.

Joints between precast manhole risers and between the top riser and the cover slab shall be made watertight with cement mortar. Prior to placing sections, the mating face shall be thoroughly soaked with water and a layer of cement mortar shall be spread on the lower face. After sections are placed, mortar which has been squeezed out shall be removed and the joint made flush inside and out.

All manhole cement mortar joints, including between the base and the first riser, and all joints around the pipes through walls, shall be given two coats on the outside of Static Asphalt Protective Coating Type #1 as made by Flintkote of Canada or approved equal.

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SPECIFICATIONS

SECTION 4 - STRUCTURAL STEEL AND MISCELLANEOUS METALWORK

4.01 Scope

Structural steel and miscellaneous metalwork, includes all material, labour, and other items necessary to construct all cover plates, slide gates, manhole steps, anchor bolts, embedded supports, brackets, hangers and other structural steel and aluminium miscellaneous metalwork as shown and specified, all as shown and specified.

Corrosion protection and painting of structural steel and miscellaneous metalwork is specified in Section 8.

4.02 Materials - Metal Work

(1) General

All steelwork shall comply with AISC Specifications for Design, Fabrication and Erection of Structural Steel for Buildings. Prior to fabrication or erection of any metalwork, the Contractor shall submit shop drawings of all structural steel and other fabricated metalwork for review by the Corporation as specified in Section 1. Painting and corrosion protection of miscellaneous metal work shall be in conformance with Section 8, "Corrosion Protection and Painting, unless otherwise specified herein or on the drawings.

(2) Stainless Steel

Provide stainless steel which conforms to the correct chemical composition and mechanical properties as outlined in the appropriate ASTM specification for the type of stainless steel used.

Stainless steel shall be Type 304 unless detailed otherwise.

(3) Structural Steelwork

Structural steel shall conform to ASTM A36 or CFAG 40.21 44W.

(4) Aluminum

Provide all aluminum in alloy 6061-T6 unless otherwise specified. Conform to the chemical composition and mechanical properties as outlined in the appropriate CSA specification, H.A series. Acid treat all surfaces to remove oils and oxides. Provide

aluminum ladders as detailed.

(5) Seat Angles, Supports and Brackets

Seat angles for electrical equipment supports, supports for floor plates and slide gate and weir support frames and guides, and brackets for piping shall be aluminum, of sizes shown, and shall be bitumastic coated (2 coats) on all surfaces in contact with concrete or steel.

(6) Galvanizing

Fabricated steel items such as brackets, hangers, seating angles, door protectors, housings, supports and similar small items shall be hot dipped galvanized after fabrication. Steelwork to be galvanized shall be zinc coated in conformance with the following standard specifications, as applicable: ASTM A123, A284, A385 and A386. Electro galvanizing will not be accepted. Refer also to Item 9.07, Section 9, Corrosion Protection and Painting.

(7) Floor Plates and Miscellaneous Cover Plates

Floor and miscellaneous cover plates shall conform to ASCE specifications for structures of Aluminum, Alloy 6061-T6 tread plate pattern C102, and shall be of the sizes shown.

Floor and miscellaneous cover plates shall be designed with sufficient thickness and strength so that their deflection under design load does not exceed 1/360 of their span. Floor and miscellaneous cover plates shall be designed for the live load shown, or where no load is indicated, for 5 kPa. No single piece of floor plate or miscellaneous cover plate shall weigh more than 35 kg.

(8) Slide Gates and Weir Plates

Slide gates and weir plates shall be fabricated from aluminum as detailed on the drawings. All the bolts used with aluminum structures (including anchor bolts) shall be 316 stainless steel.

(9) Anchor Bolts

The Contractor shall supply and install all anchor bolts, complete with sleeves, washers and nuts as shown or required by the Corporation except those supplied by the equipment manufacturer as specifically noted in the equipment specifications. All anchor bolts, washers and nuts shall be hot dipped galvanized or stainless steel, and the threads shall be formed with suitable taps and dies such that they retain the normal clearances after hot dip galvanizing. The removal of the galvanizing from either anchor bolts or nuts will be cause for rejection.

Note that only stainless steel bolts shall be used where in contact with aluminum structures.

Anchor bolts shall be either placed in position before the concrete is poured or expansion anchors can be installed later.

The Contractor shall refer to the shop drawings supplied by equipment manufacturers for the accurate location of all anchor bolts.

After anchor bolts have been concreted, their threads shall be protected by grease and by having the nuts screwed on or by other approved means until the time of installation of the equipment of metalwork.

(10) Expanding Anchors

Expanding anchors can be used. Anchors shall be of the self-drilling expansion type, made of case hardened steel with self-cutting grooves. Sizes shall be as required to safely carry the subject load. Anchors shall be Hilti, HKD, Kwik Bolt, HSL, HVA or HIT-C100.

Anchors shall be installed in accordance with manufacturer's recommendations.

Distances from corners and edges as well as anchor spacing and thickness of concrete component shall be in accordance with anchor manufacturer's recommendations.

(11) Hatch Covers

The hatch covers for the septage and bar screen chamber and for the flow metering manhole shall be fabricated from 6 mm thick aluminium plate.

(12) Miscellaneous Steel Metalwork

All custom fabricated steel metalwork other than structural steel shall be considered miscellaneous steel metalwork. Miscellaneous steel metalwork including embedded and non-embedded steel metalwork, brackets, hangers, and inserts shall be as indicated on the drawings. All miscellaneous steel metalwork shall be hot dip galvanized after fabrication unless noted otherwise. Where the items are not fully detailed or specified, details shall be submitted to the Corporation for approval before the items are ordered or fabricated.

All metal work shall be protected as provided in Section 8, Corrosion Protection and Painting, unless otherwise specified on the drawings or specifications.

4.03 Construction

(1) General Requirements

Shop drawings shall be submitted to the Corporation for review prior to fabrication as specified in Section 1.

Metalwork shall be erected as shown or as directed. Metalwork which is bent, broken or

otherwise damaged shall be repaired or replaced by the Contractor to the satisfaction of the Corporation. Embedding of metalwork shall be in strict conformance with Section 3.

Metalwork to be embedded in concrete shall be placed accurately and held in correct position while the concrete is placed, or if so shown on the drawing, or if approved by the Corporation, recesses or blockouts shall be formed in the concrete and the metalwork shall be grouted in place after the concrete is placed. The surface of the metalwork to be in contact with or embedded in concrete shall be thoroughly cleaned of all rust, dirt, grease, loose scale, grout, mortar, and other foreign matter and shall be painted in accordance with Section 8, Corrosion Protection and Painting.

(2) Inserts in Concrete

Special care shall be taken to ensure that gate guides remain tight against the formwork and that no concrete or laitance gets into the channel. The channels shall be thoroughly cleaned prior to mounting of equipment or painting.

The surface of metalwork in contact with or embedded in concrete shall be thoroughly cleaned of all rust, dirt, grease, loose scale, grout, mortar and other foreign matter.

(3) Bolted Connections

All bolted connections shall conform to AISC Framed Beam Connections and shall be bearing type connections with threads excluded from shear planes.

(4) Seat Angles, Supports and Guides

Seat angles and support for floor plates shall be set so that they are flush with the floor and also maintain the grating and floor plates flush with the floor. Seat angles over slide gate guides shall be welded to the guides.

(5) Floor Plates and Miscellaneous Cover Plates

Floor and miscellaneous cover plates shall be field measured for proper cut-outs and proper size. Holes through cover plates shall be adequately supported.

(6) Field Galvanizing

Galvanized surfaces damaged in the field shall be cleaned by wire brushing and filing, preheated, and coated with an approved zinc rich coating. Field galvanizing shall not be applied without prior written acceptance by the Engineer.

(7) Slide Gates and Weirs

The slide gates and weirs shall be field measured for proper opening and proper sizes. Tolerances shall be within 1.5 mm. The slide gates shall be fabricated complete with lifting

devices and reinforcements as indicated. Fabrication and erection of gates shall be as shown.

Gates shall be fabricated from aluminum as detailed on the drawings. All the bolts used with aluminum structures (including anchor bolts) shall be stainless steel.

(8) Septage Receiving Tank Hatch Covers

The Contractor shall supply hinged, lockable hatch covers for the Septage Receiving Tank.

The Contractor's shop drawings shall be submitted for Corporation's approval.

The hatch cover and frame shall be fabricated from 6 mm thick alum plate. The hatch cover shall be supplied with heavy duty stainless steel hinges and locking clasp with a vandal proof protective enclosure.

The hatch covers shall be supplied with a bar to secure the cover in open position.

(9) Personnel Protection

Between elevations 1 m and 2 m above any floor, and at other locations where a personnel hazard may be created, the exposed ends of all channel framing, brackets and/or the like shall be protected by rubber caps or a piece of channel framing running vertically.

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SPECIFICATIONS

SECTION 5 - MECHANICAL EQUIPMENT

5.01 Scope

This section includes the supply, installation and testing under actual conditions of all mechanical equipment supplied under this Contract. All equipment shall be provided with a minimum of 1-year warranty on parts and labour from the Certificate of Acceptance date.

Modification or replacement of the existing blower equipment steel support frames may be necessary to accommodate the new equipment supplied and shall be incorporated into the work at no extra cost to the Corporation. The Contractor shall refer to the manufacturer's shop drawings for complete details of the new equipment installation. This equipment is illustrated on the contract drawings primarily for the purpose of tendering.

Complete shop drawings, descriptive literature, and performance data for each item of equipment supplied by the Contractor shall be submitted to the Corporation for review before delivery, installation and erection as specified in Section 1. The shop drawings shall show layouts, dimensions, materials and construction details. Operating and maintenance instruction manuals for each item of equipment shall be furnished as specified under Section 1.

The following table lists the mechanical equipment items detailed in this section of the specifications. Corrosion protection and painting of mechanical equipment is also specified in this Section. For piping and valves for mechanical equipment refer to Section 6.

MECHANICAL EQUIPMENT

Designation	Location
Aeration Equipment	Cells No. 1, 2, 3, and 5
Blowers	Sewage Plant Control Building

5.02 Guards

All exposed moving parts shall be provided with guards in accordance with the requirements of the Worker's Compensation Board. Guards shall be fabricated of minimum 12-gauge steel and expanded metal screen to provide visual inspection of moving parts without removal of the guard. Guards shall be galvanized after fabrication and shall be designed to be easily removable to permit maintenance and removal of moving parts and shall have holes at the end of all shafts to permit insertion of speed counter.

All equipment which operates automatically or by remote control shall be identified by signs reading "CAUTION - AUTOMATIC EQUIPMENT - MAY START AT ANY TIME". Sign shall be 225 mm by 300 mm size and shall be constructed of 3 mm galvanized steel plate. Letters shall be white on a red background.

5.03 Lubricants and Fittings

The Contractor shall furnish all mechanical equipment with its proper supply of correct lubricant. All lubricants shall be as recommended by the equipment manufacturer. The Contractor shall limit the various types of materials by consolidation, with equipment manufacturer's approval, into the least number of different lubricants. All pressure lubrication fittings shall be "Alemite Hydraulic Type" as manufactured by Alemite Division of Stewart-Warner Corporation of Canada.

All equipment shall be properly lubricated by the Contractor prior to operation.

5.04 Equipment Bases

Equipment bases shall be secured and grouted solidly to a concrete base as detailed on the drawings. The concrete base shall be at least 50 mm larger all around than the furthest extent of the steel bedplate or isolators on the three sides and at least 100 mm larger on the side of end containing the power conduit. All corners shall have a 25 mm chamfer. Concrete finish shall be steel trowel quality. All concrete and grout work shall conform to Section 3

5.05 Mechanical Equipment

(1) Scope

Mechanical equipment includes provision, installation, operation and testing of the following mechanical equipment together with all necessary drive units, controls, spare parts and appurtenances.

All mechanical equipment shall be as specified hereunder.

(2) General Requirements

All mechanical equipment and components thereof shall be adaptable to the layouts as shown on the drawings.

All mechanical equipment shall be new and of current manufacture and shall be installed in accordance with manufacturer's recommendations.

All mechanical equipment shall operate without objectionable noise, vibration, or magnetic hum. All rotating parts shall be balanced statically and dynamically. All pumping equipment shall operate without cavitation.

All mechanical equipment shall be designed for continuous duty.

Nameplates shall be provided on each piece of equipment made of non-corrosive metallic plate bearing a clearly legible inscription of the equipment characteristics.

(3) Installation

All equipment shall be installed in accordance with the manufacturer's instructions.

(4) Installation Tests

On completion of installation, all equipment shall be tested as directed by the Corporation for satisfactory operation and compliance with the performance specified herein and the manufacturer's submissions. The blower and aeration equipment supplier's representatives shall be present during the testing.

5.06 Aeration Equipment

(1) General

This specification refers to the design, fabrication, delivery, and installation of prefabricated aeration diffusers and piping. The Contractor shall supply equipment that meets the performance criteria specified herein and shall supply heavy duty equipment specifically designed for the treatment of domestic sewage. All equipment shall be incorporated into prefabricated components ready for assembly. All equipment shall be new

(2) Existing Facilities

The existing sewage treatment plant includes two anaerobic cells, one aeration cell, one facultative/settling cell, and one final polishing cell which all typically operate in series. The aeration, facultative, and polishing cells are currently aerated with static tube coarse bubble diffusers. The following Table summarizes the parameters of each cell

Parameter	CELL 1	CELL 2	CELL 3	CELL 4	CELL 5
Existing Function	Anaerobic Cell	Anaerobic Cell	Aerated Cell	Facultative/Settling Cell	Polishing Cell
New Function	Aerated Cell	Aerated Cell	Aerated Cell	Unchanged	Unchanged
Volume (m ³)	3,640	3,640	27,300	69,000	6,200
Depth (m)	3.65	3.65	3.65	4	3.65

Air is provided to the diffusers using three positive displacement blowers. Two of the blowers are driven by 25 hp motors and each delivers air at a rate of 330 l/s and 41 kPa discharge pressure. The third blower is driven by a 50 hp motor and delivers air at a rate of 570 l/s and 41 kPa discharge pressure.

(3) General Requirements

The existing submerged piping and coarse bubble diffusers in Cell Nos. 3 and 5 shall be removed and replaced with new piping and fine bubble diffusers. New piping and fine bubble diffusers shall also be installed in Cell Nos. 1 and 2.

The existing 200 mm and 150 mm dia. FRP air headers located in the berm separating Cells 3 and 5 shall be re-used for distributing air to the new aeration equipment in these cells. A new air pipe shall be installed from the Sewage Plant Control Building out to the two Anaerobic Cells and will be tied in to the existing 300 mm dia. blower discharge air header at its capped end. This will provide air for the new aeration systems in these cells.

Currently, a combination of three blowers are utilized to aerate the cells during the various times of year. These are all intended to be replaced by new units as specified herein.

(4) Scope of Work

The Contractor shall supply and install all the components of the aeration system for the three cells including all diffusers, header piping and laterals, and drain down sump manholes. The existing air headers between Cell Nos. 3 and 5 shall be provided with adapters conforming to Section 6 for connection of the new aeration laterals.

(6) Information to Accompany Tenders

Each tender shall be accompanied with information covering the equipment offered in sufficient detail to show that it will conform to the requirements of this contract. The following data are specifically requested:

- a) Layout of aeration equipment and accessories.
- b) Listing of materials of construction and assembly details including the following items:
 - i) Material type, thickness and connection details for header pipes and laterals.
 - ii) Material type, thickness and assembly details for diffusers.
 - iii) Materials and assembly details for all supports and ballasts.
- c) Certified data for oxygen transfer efficiency in percent versus air fluxrate defined as scfm per active diffuser surface area in tap water at 14.7 PSIA, 20°C and zero dissolved oxygen at the specified submergence. The certified data shall be based on aeration test results from a full scale test facility at the design water depth for the system.
- d) Include complete air headloss calculations for the aeration equipment from the blowers to the farthest diffuser bubble release point.

- e) Calculations showing uniform air distribution shall be provided.
- f) Estimated manpower hours for field assembly.
- g) Estimated preparation time for shop drawings (from date of "Notice of Award") and estimated manufacturing and delivery time required from date of approval of shop drawings.
- h) Layout and design calculations for "current" and "future" design conditions.

(7) Aeration Requirements

a) General

The aeration system shall be designed to provide satisfactory treatment as specified in this section.

It is intended for air to be supplied by two new blowers with one additional new unit to act as a standby.

b) Process Design Criteria

The aeration equipment shall be designed to meet the following future 5000 population influent and effluent criteria plus septage loading as specified. Adequate partial mixing to meet the kinetic process conditions shall also be provided by the aeration system.

	PRESENT SEWERED POPULATION (3100)		20 YEAR SEWERED POPULATION (5000)	
	Winter Average Annual Dry Flow of 1,285 m ³ /d	Summer, Maximum Month Flow of 2,700 m ³ /d	Winter Average Annual Flow of 1,800 m ³ /d	Summer, Maximum Month Flow of 3,000 m ³ /d
BOD5 (mg/L)	250	130	240	140
TSS	100	100	100	100
TKN	50	50	50	50

Septage:

Add 9 m³/d to main influent sewage flow having concentrations of 8,000 mg/L BOD₅ and 30,000 mg/L TSS.

Septage Loadings

72 kg/day BOD₅

270 kg/day TSS

Summer Lagoon Temperature:	18 deg C
Winter lagoon water Temperature:	4 deg C
Nitrification Required:	None
Required Effluent BOD ₅ concentration:	30 mg/L
Required Effluent TSS concentration:	30 mg/L

Aeration equipment shall have a minimum distributed total capacity of 800 l/s.

5.07 Approved Systems and Suppliers

The aeration system shall be "submerged header" system and shall include weighted polyethylene pipes for the units which rest on the lagoon bottom. Diffusers shall be of the membrane type, and connected to the header pipe using flexible polyethylene piping laterals. The diffusers shall be weighted in order to rest on the lagoon floor, and individually retrievable using floats. Detailed specifications for the submerged header system are provided hereinafter.

Approved manufacturers of the aeration system are Air Research Inc. as supplied by Sanitherm Engineering and Environmental Dynamics Inc., as supplied by Novatech Equipment.

5.08 Endurance Test

Certified endurance testing at minimum 300 mm diffuser submergence in clean water and minimum of 1 million operating cycles, on/off, shall be supplied. Cycle shall be at least 10 second duration. Membranes shall retain initial headloss, dimensional tolerances, standard oxygen transfer efficiency and visual characteristics.

5.09 Submerged Header System

a) Diffusers

1. The Contractor shall furnish and install new factory assembled diffuser assemblies.
2. Each diffuser assemblies shall consist of up to 1200 mm long units.
3. The diffuser membrane shall be fully supported over its full length and circumference with a PVC membrane support frame.
4. Each frame shall have a full diameter mounting connection.
5. Diffuser membrane shall be held in place by two type 304 stainless steel clamps.
6. Each diffuser unit shall be provided with removable end connections.
7. Diffuser support frame and diffuser membrane shall be designed with a check valve capability to prevent entry of mixed liquor into the diffuser or air piping on shutdown or interruption of air supply.
8. The membrane slits shall close when air supply is interrupted. The membrane shall be elastic and allow the openings to close.
9. During shutdown conditions, the membrane shall contract and close around the PVC support frame.
10. The section of membrane over the PVC support frame air distribution orifices shall be solid without perforations to provide positive backflow prevention.

11. Individual diffusers shall be capable of being retrieved and raised to the lagoon surface for inspection or maintenance. Full retrieval and maintenance shall be possible without lowering the liquid level of the basin, without taking the basin out of service, and without disturbing or impairing operation of the process of other diffuser units.
12. To minimize field installation requirements, diffuser membranes shall be factory installed. The units shall be shipped to the work site reassembled and properly crated and protected for shipment and handling. Field solvent welding of diffuser components shall not be accepted.
13. The diffusers shall be ballasted using concrete supplied by the others. The ballasts shall have a submerged weight sufficient to offset any buoyant force under all conditions of operation.
14. Heavy polyethylene ballast forms shall be supplied by the manufacturer for ease of fabrication of the concrete ballast.
15. The ballast forms shall be of the proper geometry to assure stability of the unit when in operation. Volume and geometry of this ballast form is important and the ballast form shall demonstrate satisfactory stability as well as negative buoyancy.
16. The heavy polyethylene ballast form shall be designed to protect the clay liner.
17. All metal components used in the aeration-mixing units or accessories shall be type 304 stainless steel.
18. Typical stainless steel components shall include anchor bolts, straps, eye anchors, hose clamps, caps, washers and miscellaneous components.
19. Galvanized metal or carbon steel is not acceptable for ballast or ballast components.
20. The stainless steel anchor bolt/ballast frame assembly shall be an integrated welded assembly including anchorage bolts, spacer guides, and reinforcing steel. Frames shall be factory assembled to allow proper placement of the assembly into the ballast form.
21. Membrane material for the diffuser shall be Ethylene Propylene Diene Monomer (EPDM) rubber.
22. EPDM rubber shall be extruded into a one piece flexible membrane.

b) Header and Lateral Piping

1. The air piping and air distribution system shall be designed to allow easy regulation of airflow to each air supply lateral. The lateral piping shall be SDR 17, heavy wall polyethylene.
2. The lateral piping shall be sized to allow a normal airflow variation of 0-200% of the design airflow. Isolation/throttling valves shall be supplied complete with valve boxes for each lateral. Thrust rings shall be installed on each lateral for embedment in the existing clay liner.
- 3.
4. The existing 200 and 150 mm diameter FRP headers which service Cells No. 3 and No. 5 shall be re-used and fitted with saddle fittings conforming to Section 6 for connection of the new lateral piping. Existing outlets on the FRP headers shall

- be capped or bored out to suit new lateral piping where new configuration and branch geometry permit.
5. The ends of all laterals shall be tied into one collection header within each cell that then drains to a manhole sump conforming to Section 3.
 6. Cost of the supply and installation of the new laterals, collection header pipes, sump manholes, and appurtenances c/w associated repairs to the liner shall be included in the contract price.
 7. A new steel air header shall be installed for Cell No.s 1 and 2.
 5. Each diffuser shall receive air from the submerged HDPE lateral by a HDPE flexible airline.
 6. Each flexible airline shall be at least 2 metres greater than the water depth to allow access and removal of diffuser units.
 7. Each diffuser assembly shall be fitted with a polypropylene rope attached to the diffusers and to a float at or on the water surface. Floats and ropes shall be provided to allow full retrieval of individual diffuser units without accessing the lateral piping or interrupting lagoon operation.
 8. The outlet fitting from the submerged lateral to the airline shall be heavy walled construction and shall be side fusion welded to the polyethylene pipe.
 9. Tee assemblies shall be factory welded to a section of polyethylene lateral pipe. The Contractor shall butt fusion weld this tee segment into the air lateral at the location of each diffuser during the field installation procedure.
 10. For flexible airlines, small airline sinkers shall be provided to prevent excess movement of airline and prevent loops or water traps. Sinkers shall be attached with all stainless steel components as detailed on contract drawings. Airline sinker ballast forms shall be provided for ease of fabrication and protection of basin liner.
 11. Underwater air laterals shall be held in place by specially designed stainless steel pipe support brackets.
 12. Pipe supports shall be constructed of type 304 stainless steel and installed into concrete blocks to provide approximately 200% of net piping buoyancy force.
 13. Design of the pipe support assembly and ballast block must allow unrestrained expansion of the underwater air piping without mechanical damage or stress on piping or accessories over a temperature range of 100°F.
 14. Pipe supports for 75 mm diameter or smaller laterals shall be designed to allow installation or removal of ballast block without use of clamps or straps.
 15. Larger diameter piping systems require stainless steel straps anchored to blocks or basin floor. Straps shall be larger diameter than air laterals to allow freedom of expansion/contraction.
 16. Systems using stainless steel hose clamps or plastic cable tie straps to anchor piping to ballast are not acceptable.
 17. Only ballast systems providing unrestrained pipe expansion and contraction are acceptable.

c) Stainless Steel materials and Fabrication - General

1. All welded parts and assemblies (excluding piping and flanges specified elsewhere) shall be fabricated from Type 304L stainless steel conforming to the requirements of ASTM A240. Welds shall conform to requirements of ASTM A774, Part 4.
2. All non-welded parts and assemblies shall be fabricated from sheets and plates of Type 304 stainless steel conforming to the requirements of ASTM A240. Finish shall be a No. 2D as specified in ASTM A480.
3. Stainless steel bolts shall be 18 - 8 stainless steel.
4. Stainless steel nuts shall be 18 - 8 stainless steel.
5. Stainless steel washers shall be fabricated from Type 304 material conforming to the requirements of ASTM A240.

5.10 Manufacturers Services During Assembly and Start-up

Upon completion of the installation and pressure testing of the aeration system and blower system, conduct field tests using clean water as described below.

The aeration equipment manufacturer's representative shall be available for field inspection and start-up services for a total of two site visits comprising a duration of 8 hours per site visit. These visits may be waived at the discretion of the Engineer. Tenders shall provide pricing for these two site visits.

The manufacturer's representative shall witness the following tests once the system is operational. Perform a uniformity test by filling each Cell with water pumped from Cell No. 4 to a level of 600 mm (2 feet) above the top of the diffusers. Adjust the air flow rates to each cell to obtain the design air rates and observe air release and air distribution patterns. Tests may be witnessed by the Engineer at the Engineer's discretion.

Inspect all components for proper function and uniform air distribution. Correct any non-uniform air release and/or coarse bubbling and reinspect system.

5.11 Spare Parts

Provide an additional five percent of all diffusers installed, as spare parts.

5.12 Blowers

(1) General

This specification refers to the supply and installation of blowers c/w drivers for the new aeration system. The Contractor shall ensure that the specified blowers can meet the air supply requirements of the aeration equipment as detailed above and as provided by the aeration equipment manufacturer. As well, blowers shall be selected which are suitably compatible with the intended application. All equipment shall be new.

(2) General Requirements

Contractor shall supply new blower equipment conforming to the specifications below or equal. Supplied blower equipment must be compatible with the existing air intake and discharge infrastructure or come supplied with all required intake and discharge appurtenances as detailed below. Preference is given to units with higher efficiencies and lower noise output. Both centrifugal and positive displacement units may be used. In all cases, the proposed blower equipment must be approved by the aeration equipment manufacturer.

(3) Scope of Work

Contractor shall supply and install three identical new blowers for the Fort St. James lagoon treatment plant upgrade according to the following equipment specifications.

EQUIPMENT SPECIFICATION

Equipment Number

Equipment Location Existing Blower Building

Equipment Model Aerzen Delta Blower Package GM 25s

Equipment Description Lagoon aeration system air blowers and accessories

Manufacturer Aerzen Canada Blowers Compressors Inc. as supplied by National Process Equipment, Richmond, British Columbia, Telephone (604) 521-7867

Rated Capacity, L/s 397 (840 CFM)

Rated Pressure, m.H₂O 5 (7 P.S.I.D.)

Intake Air Temperature -20°C to 25°C

Power Supply 575 V, 3 Ph, 60 Hz

Service Factor 1.15

Motor output power, kW 30 (40 hp)

Motor Type VFD Duty Rated

Explosion Hazard Area Class N/A

Driver Control	Hand/Off/Auto switch (for each blower)
Blower Speed	Suitable for 20 year service life.
Drive Type	V-belt (with belt guard)
Drive Speed, rpm	1800
Environment	Indoors
Temperature, °C	10°C to 30°C
Noise Limit	80 dBA at 1 metre at any location around the blower acoustic enclosure

Description

Provide the following features:

- Inlet filter/silencer sized for maximum blower capacity. The existing silencers may be re-used as approved in writing by the blower manufacturer.
- Filter contamination indicator on filter/silencer housing.
- Equipment base frame c/w flexible mountings.
- Discharge silencer sized for maximum blower capacity.
- Drive guard.
- Double gate, Class 125, wafer check valve.
- Spring-loaded pressure relief valve.
- Expansion joint or flexible connection on blower discharge suitable for 150 mm (6 inch) IPS connection.
- High air temperature switch internal top each blower motor brought out to MCC for wiring into motor control circuit.
- Sound attenuation enclosure conforming to the noise limits provided above.
- The equipment shall be factory tested under load in accordance with DIN 1945 standards.
- The equipment shall be installed and tested according to the manufacturer's

recommendations.

- Provide a three-year, unlimited warranty on all parts and labour.
- Remove existing blowers (to make room for new blowers) and appurtenances and return to Corporation.

5.13 Ducting

The Contractor shall supply and install all ducting indicated on the drawings in accordance with the manufacturer's recommendations as well as the latest editions of SMACMA and ASHRAE. The ducting shall be suitably supported and braced to resist the local design seismic loading.

All new intake ducting to be lined with minimum 50 mm thick accoustic insulation as supplied by "Surround Technologies" or "Alum-Tek Industries".

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SECTION 6 - PIPING AND PIPELINES

6.01 Scope

Piping and pipelines includes the supply of all material and the installation and testing of all pipe, pipe supports, anchors, manholes, fittings, valves, specials, and all other necessary appurtenances as shown, specified and as required to make the work complete and operable. This section includes all inside and outside piping.

6.02 Materials - General

(1) Materials Supplied by the Contractor

The Contractor shall supply all the materials and equipment under this Section. Pipe, fittings and general purpose valves for each piping system shall be as specified in this section unless otherwise specified elsewhere or on the drawings.

(2) Substitutions

Piping has been shown and detailed using the materials and appurtenances noted for the particular piping system. The Contractor may propose substitutions but all substitutions must be submitted to the Corporation for approval only after contract award. Upon approval of a substitution, the Contractor shall submit detailed calculations showing the pipe substitution capability and wall thickness required for all runs in the system.

Approved substitutions not requiring prior Corporation approval are noted in the specification.

6.03 Pipe Materials

(1) Pipe P1

- a) PVC, DR18, Class 150 manufactured for AWWA 900, certified by CSA, to CSA B137.3, ULC approved.
- b) Cast iron pipe equivalent outside diameter.
- c) To be compatible with specified mechanical joints and push-on fitting and valves without use of special adapters.

- d) Joints: Push-on integrally thickened bell and spigot type to ASTM D313.9 with single elastometric gasket to ASTM F466.

(2) Pipe P2

- a) PVC, DR35, ASTM D2412, manufactured to ASTM D3034, conforming to CSA B182.2.
- b) Joints: Integral bell and spigot ends with stiffened wall section and formed groove for a rubber gasket; gasket to ASTM F477.

(3) Pipe P3

- a) Steel, CSA B63 or ASTM A120, Schedule 40, AWWA C200-97, coal tar enamel coated and lined to AWWA C203 (AWWA C217 for joints).

(4) Pipe P4

- a) Steel CSA B63 or ASTM Schedule 40, hot dip galvanized.

(5) Pipe P5

- a) Type K annealed copper, to ASTM B88M.

(6) Pipe P6

- a) Corrugated steel, galvanized.

(7) Pipe P7

- a) Non reinforced concrete pipe ASTM C14.

(8) Pipe P8

- a) HDPE, SDR18, manufactured to AWWA C906, certified by CSA, to CSA B137.1, ULC approved. All buried piping to be anchored against buoyancy as per manufacturer's recommendations.
- b) Cast iron pipe equivalent outside diameter
- c) Joints: Fusion butt welding to ASTM D2657, Flanges to be Vanstone type with stainless steel back up flanges to Class 150.

6.04 Fittings

(1) Fittings F1

- a) Cast-iron fittings to AWWA C110 suitable for pressure rating of the pipe.
- b) Single rubber gasket for push-on bell and spigot type joint to AWWA C111; Tyton.
- c) Flanged joints to AWWA C110 suitable for pressure rating of the pipe.
- d) Full face flange gasket to be manufactured from black natural rubber 3.175 thick with layer of cotton on both sides.

(2) Fittings F2

- a) Steel CSA B63 or ASTM A120, Schedule 40 coal tar epoxy coated.
- b) Joints: Grooved type couplings (coal tar epoxy coated or mastic wrapped)

(3) Fittings F3

- a) Malleable iron, ANSI B16.3, Schedule 40, hot dip galvanized.
- b) Joints: Threaded, threaded flanges.
- c) Unions: Hot dip galvanized, Schedule 40.

(4) Fittings F4

- a) Type K annealed copper to ASTM B88M.

6.05 Valves

(1) Valves V1

- a) Gate valves, cast iron body, solid wedge gate, N.R.S. Stem, bronze trim, rated for working pressure of 1380 kPa, conforming to AWWA C500.
- b) Ends: tyton or flanged.
- c) Operators: Buried, submerged, or valves in manholes to be supplied with 50 mm square nut and stem extension. Exposed valves to be supplied with handwheel.

(2) Valve V2

- a) Ball valve, bronze body, brass trim, corrosion resistant metal disk, screwed

removable seat rings, suitable for low pressure (10 psi) air service. Jenkins or approved equal.

- b) Ends: Flanged
- c) Operator: AWWA nut c/w T-Bar handle.

(3) Valve V3

- a) Butterfly valve, brass trim, corrosion resistant metal disk, screwed removable seat rings, 10-position levers (for above ground service only). Valve bodies shall be rated to 1034 kPa (150 psig) and API 609 air service and be polyester-coated cast iron ASTM A 126 Class B. Totally encapsulating peroxide cured elastomer seat suitable for 121 degree C (250 degree F) continuous operation. Butterfly valves shall have an air profile (undercut) disc for air service. Tested to MSS-SP-61 Bray Controls, series 30, Keystone, Centreline or equal.
- b) Ends: Wafer style with two flange locating holes.
- c) Operator: AWWA nut c/w nut T-Bar handle.

(4) Valve V4

- a) Eccentric plug valve with resilient faced plugs for sewage service, gear actuated. DeZurik Fig 118 or equal.

6.06 Piping Schedule

Service	Pipe	Fittings	Valves
Septage Receiving Chamber – Outlet Pipe	P3	F2	V4
200 mm Dia. Air Header, buried	P3 or P8	F2	V3
Air Laterals buried	P8	See P8	N/A

6.07 Miscellaneous Materials

(1) Flange Bolts and Nuts

Bolts to be medium ASTM A325 heavy hex finish, hot-dip galvanized to ASTM A153, coarse threads to have Class 2A tolerance before galvanizing. Bolt size to AWWA C110.

(2) Mechanical Couplings

Mechanical couplings shall have a 9.5 mm centre ring x 178 mm long and shall be Cast Dresser Style 38, or Robar or equal suitable for the related pipe. All welds on steel piping shall be ground flush and smooth for a distance of 300 mm where couplings are installed.

Flexible couplings intended to take tension shall be supplied with tension tie rods and lugs as detailed on the drawings.

(3) Grooved Pipe Couplings

Grooved pipe couplings shall be supplied where shown on the drawings. Grooved couplings shall be Victaulic Style #77 or equal c/w Grade E gaskets and end rings where applicable suitable for exposure to blower oil. Couplings shall conform to the corrosion protection requirements of Section 6.10.

(4) Strap-on Saddle Branch Adaptors

Robar Model 6626 304SS, Buna-N gasket. **(For connection of new aeration laterals to existing FRP headers for Cell No's 3 & 5)**

(5) Unions

Unions shall be used to facilitate installation of traded piping systems and replacement of valves and equipment. The unions shall be Crane No. 1280, galvanized or equal.

(6) Isolating and Drain Valves

Isolating and drain valves 50 mm and smaller shall be brass ball pattern valves.

(7) Pipe Hangers and Supports

All aboveground pipe shall be rigidly supported with field fabricated pipe hangers, pipe supports and fabricated brackets as shown on the drawings or as required to give adequate support.

(8) Transition Couplings

Transition couplings between different pipe materials shall be Robar Cast Reducing Couplings or equal.

(9) Tie Bar Clamps

Tie bar clamps shall be as manufactured by Grinnell or equal.

(10) Valve Boxes

PVC valve boxes extending to the finished or established ground or paved surfaces shall be provided for all buried valves as well as sluice gates and slide gates which have operating nuts flush with floors. They shall have suitable base castings to fit properly over the bonnets of their respective valves and heavy top sections with stay-put covers. The valve boxes shall be Terminal City N.T., unless otherwise specified on the drawings.

6.08 Installation

(1) General

The types and sizes of pipes to be used shall be as specified and shown. Where sizes of small pipe are omitted from the drawings and not mentioned in the specifications, the sizes to be used shall be proper for the functions to be performed and as accepted by the Corporation.

All pipe shall be carefully placed and supported at the proper lines and grades, and where possible shall be sloped to permit complete drainage. Piping runs shown on the drawings shall be followed as closely as possible, except for minor adjustments to avoid architectural and structural features. If major relocations are requested, they shall be submitted to the Corporation for approval.

In erecting the pipe a sufficient number of screw unions, flanged or grooved end type joints shall be used to allow any section or run of pipe to be disconnected without taking down adjacent runs. Flanged and mechanical pipe coupling joints shall be employed on pipelines 75 mm in diameter and larger. The provision of an adequate number of appropriate take-down fittings must be rigidly adhered to whether or not such fittings are indicated on the drawings. Take-down fittings shall also be provided for removal of valves and other appurtenances. Where piping passes through concrete or masonry walls, take-down fittings shall be employed as near the wall as possible.

Wherever a pipe 25 mm in diameter and larger passes from concrete to earth, two flexible pipe couplings spaced a minimum of 600 mm apart shall be installed. Particular care shall be taken to insure a full support of the pipe in the earth between and beyond the joints.

Wherever a metallic nonferrous pipe or appurtenances is connected to a ferrous pipe or appurtenance, an insulating section of rubber or plastic pipe shall be installed. The insulating section shall have a minimum length of 12 pipe diameters. Dielectric unions of an acceptable type may be used in lieu of the specified insulating sections. Wherever copper pipe is supported from hangers, it shall be suitably insulated from the hangers.

The interior of all piping shall be cleaned after assembly and before connecting to equipment.

(2) Pipe Supports

Aboveground piping shall be properly supported by anchor brackets, saddles or hangers. Unless otherwise shown, hangers for all horizontal runs of all sizes of pipe shall be spaced in accordance with the following tables:

Material	Diameter (mm)	Maximum Supporting Spacing (m)
Standard Schedule, Steel	19, 25	2.0
	32 to 62	3.0
	75 to 100	3.0
	150	3.0
	200 to 250	3.0
	300 and more	4.0
PVC, DR 25 Class 100	75	1.5
	100	2.0

Hangers or supports shall be provided at each change of direction. All pipe supports shall be aluminum with stainless steel bolts.

(3) Piping through Walls and Slabs

Unless otherwise indicated, pipes passing through walls and slabs shall be installed so that the joint is watertight. Care shall be taken to ensure no contact between embedded sleeves or pipes and reinforcing steel. Pipe shall be isolated from reinforcing steel.

The Contractor shall install manhole adaptor rings supplied by the PVC pipe manufacturers to ensure a watertight connection between concrete and PVC pipe. These rings shall be installed at all crossings of PVC through concrete.

(4) Pipe Welding

All pipe welding shall be done by the shielded electric arc method, by holder of a white ticket, certified by the Chief Boiler Inspector of the Province of British Columbia. Welds shall be made where and as shown on the drawings, and the weld material shall meet the requirements of ASME Boiler Code (Class 1).

(5) Pipe Cutting

The Contractor shall perform all work of cutting pipe and fittings or special casting necessary for the proper and accurate assembly, erection and completion of the work. All pipe shall be cut to fit accurately with smooth edges and faces.

(6) Pipe Threads

Pipe ends shall be reamed to the full bore of the pipe. Threads shall conform in dimensions and limits of size to ANSI B2.1, taper jointing thread. In making up threaded joints, an accepted thread lubricant shall be applied to the male threads only.

(7) Flanged Joints

Flanged joints shall be made up square with even pressure upon the gaskets and shall be perfectly watertight.

(8) Solder Joints

Solder to be used in copper piping shall conform to the current issue of ASTM B32. All pipe and fittings to be joined with solder shall be free from all burrs and wire brushed or steel wool cleaned. After cleaning, a paste flux shall be evenly and sparingly applied to the surfaces to be joined. Solder shall then be applied and flame passed toward the centre of the fitting until the solder disappears. All excess solder shall be removed while it is still plastic. Absolutely no acid flux or acid wipe shall be used in making solder joints.

(9) Thrust Blocks

Concrete blocks shall be placed at fittings of bends and tees of buried pressure pipes that do not have flanged or restrained joints.

(10) Outside Pipelines

Pipe shall not be laid when the condition of the trench or the weather is unsuitable. Minimum cover for buried piping shall be as follows

P3:	600 mm
P1,P8:	1,200 mm (vehicle traffic areas), 600 mm (non traffic areas).

All outside pipelines including watermain, sewage and sludge piping, foundation drains, storm sewers, culverts, shall be constructed true to line and grade, using batter boards or as otherwise approved by the Corporation.

Pipe shall be joined strictly in accordance with the pipe manufacturer's recommendations. Fittings shall be as specified.

All pipes shall be installed on a specified layer of compacted bedding material. After installation, pipe shall be inspected by the Corporation prior to backfilling with compacted bedding material, to a depth of 200 mm over top of the pipe. The remainder of the trench shall be backfilled with specified compacted fill material.

All outside steel piping shall be protected in accordance with Section 6.10 and Section 8. Steel pipe shall be shop coated and lined with coal tar enamel prior to installation so that only touch up and fittings remain to be coated in the field.

Wherever a PVC pipe passes from concrete to earth, a pair of pipe couplings spaced a minimum of 600 mm and a maximum of 1500 mm apart shall be installed. Particular care shall be taken to ensure a full support of the pipe in the earth between and beyond the joints.

Outside pipelines shall not be constructed until after fill has been fully consolidated.

6.09 Pipeline Testing

(1) General

All new piping, both gravity and pressure pipelines, shall be subject to acceptance tests. The Contractor shall provide all necessary materials, equipment, utilities, labour and facilities for testing and shall dispose of all waste, including water.

After backfilling and restoration of surfaces, all pipelines shall be inspected for obstructions shall be cleaned and flushed with water.

(2) Gravity Pipelines

Gravity pipelines, as defined in this Contract, include lines which connect the individual tanks, manholes and chambers and a maximum pressure in the lines is governed by the water level in the tanks, manholes and chambers.

Each manhole, chamber and piping shall be tested. The test section which may consist of either only pipe, or pipe and adjacent manholes and/or chambers. The tested section shall be separated from the rest of the system. Then it shall be filled with water to the top of the walls at least 2 hours prior to testing.

Tests shall last at least 2 hours. No measurable leakage is permitted.

(3) Pressure Pipelines (including airlines)

Pressure pipelines included waterlines and pump discharge piping.

The test may be against either valves or end caps at the end of the pipe. Suitable temporary thrust blocks are required to facilitate the testing.

The test pressures shall be as follows:

- | | | |
|----|-----------------------|--|
| 1. | Pump Discharge Piping | 50% above the shut off pump discharge head |
| 2. | Waterlines | 1034 kPa (150 psi) |
| 3. | Air piping | 345 kPa (50 psi) |

The pressure test shall be measured at the lowest point in the test section.

The maximum leakage allowed shall be determined from the following formula:

$$L = \frac{NDP}{130,000}$$

where L = allowable leakage in litres per hour
N = number of joints
D = diameter of pipe in mm
P = average test pressure in kilopascals

The leakage shall be determined by measuring the quantity of water required to maintain constant test pressure in the pipe over a period of 2 hours.

Air lines shall be tested pneumatically. The test pressure shall be maintained for a minimum of 2 hours and shall not decrease by more than 34 kPa (5 psi) during the test period.

All valves shall be included in the test.

If the section of the pipe under test does not meet this allowable leakage, the Contractor shall locate and correct the leaks and then repeat the test until satisfactory results are obtained.

6.10 Corrosion Protection for Steel Pipe and Fittings

The contractor shall repair shop coating of coal tar enamel which has been damaged or removed. Protect all joints and appurtenances against corrosion.

Following any field grooving of pipes for joints, prepare joints by cleaning the pipe with a rotary power brush and then protect the joints both internally and externally with coal tar enamel to AWWA C203-99.

Apply coal tar enamel in strict accordance with the manufacturer's recommendations.

Encapsulate all couplings, valves, flanges, including bolts, nuts, and washers with denso paste and tape to AWWA C217.

Damage to the epoxy coatings shall be touched up in the field to AWWA C203-99 standards.

Refer to Section 8 - Corrosion Protection and Painting for further details.

6.11 Pipeline Nomenclature

All exposed pipelines shall be identified by name. See Section 8 - Corrosion Protection and Painting and the Piping Specifications Sheets, following.

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SPECIFICATIONS

SECTION 7 - ARCHITECTURE

Not Used.

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SPECIFICATIONS

SECTION 8 - CORROSION PROTECTION AND PAINTING

8.01 Scope

Corrosion protection and painting shall include galvanizing, furnishing of all protective coatings, paint, labour, equipment, appliance, and material and the performing of all operations in connection with the preparation of surfaces, application of all protective coatings, paint or other materials and the manufacture of protective coatings, paints, paint materials and miscellaneous materials incidental thereto, complete as shown and specified. Surfaces to be protected shall receive the treatment and the number of coats prescribed in the protective coating and painting schedule.

8.02 General

Work shall be carried out in accordance with the standards of, and using the materials specified in, the Master Painters and Decorators' Association Painting Standards Manual for Premium Grade.

Paint colour shall match existing area of plant.

The paint and corrosion protection materials shall be supplied by either ICI Paints Inc. (Glidden) and/or Tremco Ltd., and/or Shermin Williams Ltd.

8.03 Cleaning and Preparation of Surfaces

Surfaces to be coated shall be clean before applying protective coatings, paint or surface treatments. Oil, grease, dirt, rust, loose millscale, old weathered paint, and other foreign substances shall be removed except as hereinafter specified. The removal of oil and grease shall, in general, be accomplished by blast cleaning. Minor amounts of grease and oil contaminants will be tolerated on the surface prior to blast cleaning, provided that abrasive is not reclaimed and re-used.

The standard of cleanliness shall be American Standard - near white finish SSPC - SP10-63T.

8.04 Paint Application

(1) Workmanship

All work shall be done in a satisfactory manner so that the finished surfaces will be free from runs, drops, ridges, waves, laps and unnecessary brush marks. Care shall be exercised during spraying to hold the nozzle sufficiently close to the surfaces being coated to avoid excessive evaporation of the volatile constituents and loss of material into the air, or the bridging over of crevices and corners. Spray equipment shall be equipped with mechanical

agitators, pressure gauges and pressure regulators. Floors, roofs and other adjacent areas and installations shall be satisfactorily protected by drop cloths or other precautionary measures.

(2) Protective Coating and Paint Properties, Mixing and Thinning

All protective coatings and paint when applied, shall provide a satisfactory film and smooth even surface, and excessively glossy undercoats shall be lightly sanded to provide a surface suitable for the proper application and adhesion of subsequent coats. Paint materials shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Materials shall be delivered to the job in unbroken containers which shall show the designated name of formula, colour, any special directions, manufacturer and date of manufacture.

(3) Atmospheric Conditions

Except as specified or required for certain water-thinned paint, coatings shall be applied only to surfaces that are thoroughly dry and only under such combination of humidity and temperature of the atmosphere and surfaces to be coated as will cause evaporation rather than condensation. Where coating is permitted during damp weather, or when the temperature is at or below 10 degrees C, the surfaces shall be heated to prevent moisture condensation thereon. Bare metal surfaces, except those which may be warped by heat, may be dehydrated by flame-heating devices immediately prior to protective coating application. While any coating is being done, the temperature of the surfaces to be coated and of atmosphere in contact therewith, shall be maintained at or above 10 degrees C, except where coatings are being used which dry solely by evaporation, in which case the temperature of the air and surface may be 2 degrees C or as approved by the Corporation.

(4) Protection of Coated Surfaces

Where protection is provided for coated surfaces, such protection shall be preserved in place until the paint film has properly dried, and the removal of the protection is authorized. After delivery at the site of permanent erection or installation, all shop-coated metalwork shall be recoated and retouched from time to time with specified material, whenever in the opinion of the Engineer, it becomes necessary to maintain the integrity of the film.

(5) Method of Application

The specified primer or first coat shall be applied by brush to ferrous surfaces which have not been blast cleaned except as hereinafter specified. All subsequent coats for all ferrous surfaces may be either brush or spray applied. All coats for miscellaneous ferrous metal surfaces may be brushed or sprayed. All coats for concrete and masonry shall be brushed.

(6) Coverage and Film Thickness

The average total thickness (dry) of the completed protective coating system shall be in

accordance with the Master Painters and Decorators' Association Standards or as specifically stated herein.

(7) Continuity

In testing for continuity about welds, projections such as bolts and nuts, and crevices, the Corporation will determine the minimum conductivity for smooth areas of like coating where the dry mil thickness has been found adequate. This conductivity shall then be taken as the minimum required for these rough irregular areas. All pin holes and holiday areas shall be reinstated to the required coverage. All ferrous metal surfaces shall meet minimum continuity requirements.

(8) Colours

Colours shall be as selected by the Corporation. Where directed by the Corporation, alternate coats of paint shall be tinted to insure that all surfaces are properly coated with the specified number of coats. Unless otherwise specified, the colour of all undercoats shall match the colour of the finish paint as nearly as practicable.

(9) Clean-up

Upon completion of the painting the Contractor shall remove all surplus materials, protective covering and accumulated rubbish and thoroughly clean all surfaces so that the Corporation can determine if any overspray or other paint related damage has been done and oversee its immediate repair.

8.05 Protective Coating and Painting Schedule

(1) General

The following schedule indicates the various coating systems and general types of surface to be covered under each system. It is the intention of this specification that all new surfaces and existing surfaces which are modified as part of the work shall be coated or painted as applicable and as indicated or specified, notwithstanding those specified in other sections.

In general, the following locations shall be coated for new surfaces and existing surfaces modified as part of the work:

- (a) All visible gypsum board and plaster.
- (b) Exterior, interior and submerged: iron, steel, brass and copper metalwork, including pipes and valves.
- (c) Buried steel pipelines.
- (d) All visible surfaces of equipment, bolts, nuts, hangers, clamps, pipe and similar metal appurtenances, not galvanized or stainless steel.
- (e) All visible or concealed surfaces of pipe and equipment not visible or concealed.
- (f) All interior concrete and masonry walls and ceilings in the existing buildings.

(g) Galvanized pipe and fittings.

The following locations shall not be painted:

- (a) All prefinished materials.
- (b) Treated wood unless otherwise noted.
- (c) Aluminum and cover plates.
- (d) All existing surfaces not affected by the work.
- (e) Concrete floors.
- (f) All aluminum and stainless steel surfaces unless otherwise noted.
- (g) All galvanized surfaces, except for galvanized pipe and fittings.

Surface/Substrate	Paint Type	Primer/ 1st Coat	2nd Coat	3rd Coat	Total Dry Film Thickness
Iron and steel, interior, concealed or not concealed, not submerged, such as piping, machinery, electric panels and equipment - Note 4	Epoxy Poly-amide	Yes	Yes	Yes	0.34 mm (13.5 mils)
Iron and steel, exterior, concealed or not concealed, not submerged, such as piping and structural steel - Note 2	Alkyd	Yes	Yes	Yes	0.20 mm (8.0 mils)
Iron and steel, submerged or exposed to moisture, or buried such as weirs, metal troughs, baffles, piping below tank walkways, - Note 4	Coal Tar Epoxy	Yes	Yes	Yes	0.46 mm (18.0 mils)
Piping joints and fittings buried - see Note 3.	As per 6.10				

Notes:

1. Prime coat may be brush applied in shop. Touch-up prime coat as required in field. Primer shall be allowed at least 72 hours drying time in good weather before recoating.
2. Surface shall be blast cleaned in accordance with SSPC 6.
3. Apply heavily by brush to give a total film thickness of 0.61 mm. Brush each additional coat perpendicular to strokes of preceding coat. Drying time between coats shall be at least 24 hours and shall not exceed 48 hours. If the 48 hours is unavoidably exceeded, approval shall be obtained from the Corporation on each occasion to soften the surface with zylol or other approved solvent prior to continuing the coatings.

4. Surface shall be blast-cleaned in accordance with Section 9.03(2).
5. All piping below grade shall be factory coated. Where feasible all submerged piping shall be factory coated by Shaw Pipe Protection (Pacific) Ltd.
6. Buried fittings and mild steel pipe shall be protected as per Section 6.10.
7. Pipe lining shall be applied in two equal coats. Lining shall be shop applied by Shaw Pipe Protection (Pacific) Ltd. Preparation for lining shall be in accordance with Section 9.03(2).
8. All mention of steel in the above table refers to mild steel, hardened steel, plain steel, etc., and excludes stainless steel.

8.06 Galvanizing

All anchor bolts, manhole steps, handrails (unless handrails are aluminum), hangers, brackets, equipment mounting, nuts, bolts, washers, as well as all other miscellaneous mild steel and cast iron, and including that noted and specified shall be hot dip galvanized after fabrication. The only exceptions are specifically exempted by notes on the drawings.

Galvanizing shall be by the hot dip process, shall conform to the applicable requirements of ASTM A-123, A-153, A-384 and A-386 or as otherwise specified.

8.07 Colour Schedule

The colouring schedule will be supplied to the Contractor for all surfaces to be painted within four weeks following a request.

8.08 Piping Identification

- (a) In general, all visible exterior and interior new piping and existing piping modified as part of the work shall be identified by the nomenclature and direction of flow as follows:
 - inlet and outlet of equipment.
 - next to all valves and on both sides of walls.
- (b) The nomenclature and arrows shall be painted on the pipe with black enamel paint using templates. The size of the lettering and arrows shall be as follows:

Pipe Size	Arrow Size
19 mm to 50 mm	12 mm x 50 mm
over 50 mm	25 mm x 100 mm
Pipe Size	Size of Letters
19 mm to 32 mm	12 mm
27 mm to 50 mm	19 mm
62 mm to 150 mm	32 mm
200 mm to 250 mm	56 mm
over 250 mm	87 mm

- (c) A detailed nomenclature list will be given to the Contractor by the Corporation within four weeks of a request.
- (d) All mechanical equipment shall be identified with Lamacoid nameplates approximately 50 mm high with lengths to suit. Lettering shall be 25 mm high maximum of 2 lines. Lettering shall be white on black background.

Locations will be determined in the field. The Contractor shall provide suitable wooden mounting boards where required.

- (e) Electrical and Instrumentation Section for special requirements concerning identification of electrical switches and warning signs.

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SECTION 9 - ELECTRICAL AND INSTRUMENTATION

9.01 General

All electrical equipment shall be furnished and installed on-site by an electrical contractor holding valid certification from the Electrical Safety Branch, Province of B.C. for the class of work required. The electrical contractor shall be exclusively responsible for the supply of such equipment. All electrical materials supplied under this Contract shall be new, of current manufacture, and shall bear the C.S.A. seal of approval, or other certification mark acceptable in the Province of British Columbia. Custom manufactured items shall be inspected and approved by a certification authority acceptable in the Province of British Columbia before being installed. The Contractor shall arrange and pay for such inspection and approval as necessary.

Completed work shall be strictly in accordance with the current edition of the Canadian Electrical Code, including all amendments, and any local bylaws or rules regulating the installation of electrical equipment. All workmanship shall be of the highest quality and sub-standard work will be rejected.

The Contractor is warned that conflicts may be encountered and is advised to confirm the nature of the work required prior to submitting a tender. No claim for additional work on the grounds that the Contractor did not anticipate actual requirements will be considered.

Allowance has been made in the design for the size and number of conductors which the Engineer considers adequate for serving the various drives and equipment. These conductors and conduits are based on available data pertaining to a particular design of equipment. If the Contractor provides equipment which differs in connection requirements from the equipment shown, approval by the Engineer of the substitution shall not relieve the Contractor of his obligation to provide the necessary diagrams, services, materials and connections to the equipment as part of the work.

The Contractor shall be responsible for providing complete and workable systems as outlined in the specifications and on drawings. The Engineer will not recognize any sub-contractor as such, but will consider all persons engaged on the work to be under the control of the Contractor.

The Engineer will not, under any circumstances, enter into discussions concerning the responsibility of subtrades or the apportionment of work. No claim based on the division of work between specification sections will be considered.

9.02 Scope of Work

The Contractor shall supply, install and test all wiring and equipment necessary to properly and fully complete the operating systems as specified herein and as shown on drawings, unless otherwise indicated. All materials, labour, tools and appliances necessary for this work shall be furnished by the Contractor.

The Electrical work shall include but not be limited to:

1. Supply and installation of two (2) new dual circuit breaker units into the existing motor control centre (MCC).
2. Supply and installation of a new floor standing ASD enclosure housing three (3) adjustable speed drive (ASD) units, each complete with line and load filters, and attached standby selector control panel.
3. Supply and installation of new single phase panelboard circuit breaker, for the standby selector control panel.
4. Supply and connection of new power conductors through existing conduits to blower motors, and to motor cooling fans.
5. Supply and connection of new conductors through existing conduits to new blower temperature switches.
6. Startup and commissioning.

9.03 Substitutions

Supply approved equipment exactly as indicated by the drawings and specifications. Alternate materials may be substituted by the Contractor only if such substitutions have been approved in writing by the Engineer.

9.04 Permits and Inspection

The Contractor shall make himself fully acquainted with all codes and bylaws relating to the installation of equipment. He shall obtain and pay for all permits required for the execution and inspection of his work and pay all charges relating to such permits.

9.05 Motor Control Components

The Contractor shall ensure that all motor control components are fully compatible with each other, as well as with the respective motor being controlled. In the event that motor operation or service life is significantly compromised by the supply of inappropriate motor control equipment, this shall be immediately rectified without additional cost.

Code required disconnect switches and overload relays shall be provided if not integral with the equipment or otherwise specified.

9.06 Shop Drawings and Tests

Prior to commencing manufacture of the new ASD enclosure, the Contractor shall supply at least three copies of drawings illustrating external dimensions and major structural details to the Engineer for review. These drawings shall also show the proposed general layout of equipment within the ASD enclosure and shall include the ratings of all electrical devices where applicable.

At least three copies of single line distribution and control wiring schematics shall also be furnished.

In addition, at least three copies of a bill of material listing the significant items of electric equipment proposed shall be provided. Additional information shall be provided for major items of electrical equipment as necessary to illustrate the functions provided.

No more than eight copies of drawings, schematics or bill of material will be reviewed by the Engineer. Maximum drawings size shall be 280 mm by 430 mm format.

When submitting the required drawings and bill of material, the Contractor shall advise the Engineer in writing of any changes or exceptions therein to the specification or related drawings. Subsequent to review, at least one copy of the submitted drawings and bill of material will be returned to the Contractor stamped "reviewed" or as otherwise pertinent. Any attached comments provided by the Engineer regarding the submittal shall be forwarded by the Contractor to the appropriate supplier.

The Contractor shall allow at least 1 week for the Engineer to review shop drawings. Any manufacturing done before approval of the drawings by the Engineer will be at the Contractor's risk.

The review of the Contractor drawings and bill of material shall be for determining the general conformance of the equipment with the design concept and shall not relieve the Contractor of any obligation in the Contract nor of his responsibility for any errors or omissions.

Before the ASD enclosure is shipped to the job site, the Engineer shall be given five working days notice of a time that the assembly may be inspected at the point of manufacture. At that time, the Contractor shall demonstrate to the Engineer the correct functioning of control inputs and outputs, plus any other devices that can reasonably be tested.

9.07 Record Drawings

The Contractor shall keep an accurate record of all field changes and modifications on a clean set of drawings as required, using accepted drafting techniques.

At the completion of the job, return these corrected drawings to the Engineer.

9.08 Digital Format Drawings

On request, tender drawings may be provided to the Contractor in digital ACAD format at the discretion of the Engineer. In turn, these may be used for the preparation of shop drawings and for the later submission of corrected record drawings in alternate ACAD format.

9.09 Operation and Maintenance Manuals

The Contractor shall furnish the Engineer with three (3) complete bound sets of typewritten or printed instructions, covering the proper method of operating and maintaining the equipment and systems included in this contract. It is recommended that the Contractor retain a fourth copy of the manual for future reference.

Included within the manual shall be manufacturer's original printed operation and maintenance manuals covering specific items of equipment provided that may require field adjustment or programming, such as the adjustable speed drives.

The manual shall also include all finalized shop drawings in 280 mm by 430 mm format, catalogue numbers of all electrical equipment installed and manufacturer's parts lists. Binders shall be easily opened and reasonable space shall be available for the inclusion of design criteria and background information by the Engineer.

9.10 Handling and Storage of New Equipment

All electrical equipment shall be adequately protected from damage during handling and from dust, dampness or any other injurious substance during delivery to the site, while at the site and after construction. Any damage which may occur during handling, shipping, or installation shall be made good by the Contractor at his expense. Equipment stored in unheated or open areas on the site shall be covered and provided with thermostatically controlled heaters of sufficient size to keep temperature of the equipment above the dew point.

Storage areas shall be made accessible to the Engineer at any time for the determination of the condition of storage.

9.11 Interference with Building Operation

As this building is an integral part of the Nak'azdi Band wastewater treatment system:

1. The Contractor shall provide with tender a brief methodology of how the completion of work is proposed, to assure minimum interruption of operation at each station site.
2. All power interruptions to existing equipment shall be at the convenience of the Nak'azdi Band Council. Each interruption shall have prior approval.

9.12 Removal of Equipment

All equipment removed from site shall, at the discretion of the Nak'azdi Band Council, either be delivered and offloaded at the Works Yard, or disposed of in a legal manner. Equipment shall not be removed until it is no longer required to maintain station operation.

9.13 Field Practices

(a) Conduit

Exposed conduit shall be of galvanized rigid steel.

(b) Wires

Unless otherwise specified or shown on the drawings, all wires shall be RW90, XLPE insulated, minimum #12 AWG stranded copper. For control circuits, #14 stranded copper wire may be utilized.

(c) Bonding

A bonding conductor shall be installed along with power conductors in all conduit runs, regardless of the type of conduit being used.

(d) Motor Rotation

Whenever equipment is driven by threaded shafting capable of becoming unscrewed by improper motor rotation, the motor shall be disconnected from the unit and proper rotation confirmed before reconnection.

Any equipment damaged from improper motor rotation shall be promptly repaired or replaced by the Contractor to the full satisfaction of the Engineer.

(e) Testing

On completion of the work, and after complete testing by the Contractor, the equipment shall again be tested, and operation demonstrated, as directed by the Engineer. The Contractor shall furnish equipment and trained personnel to assist in this testing. Any deficiencies or unsatisfactory work shall be promptly remedied by the Contractor to the satisfaction of the Engineer.

All equipment shall be installed, wired, calibrated, and tested in strict accordance with the manufacturer's instructions and good instrumentation practice.

The Contractor shall provide as required the services of factory representatives for startup of specialized equipment. In the event that the work, in the opinion of the Engineer, is found not to be substantially ready for testing then a subsequent testing session shall be scheduled

without additional cost.

A 1000 volt Megger shall be available during testing and shall be sized sufficiently large to thoroughly saturate the circuit under test. Any ground, short circuit or work which, in the opinion of the Engineer, does not have a high enough megger reading shall be immediately repaired. Any reading below 2 megohms will not be acceptable.

9.14 New MCC Dual Circuit Breaker Units

The new MCC Dual Circuit Breaker Units shall be as supplied by the original MCC manufacturer.

Unit compartment doors shall have mechanical interlocks so that a door cannot be opened with a unit MCP energized. A defeater mechanism shall allow intentional access. The manual operating mechanism shall be a stationary lever operator or linear drive slide handle.

Provided as required shall be magnetic only motor circuit protectors rated for fault currents of 22,000 amps RMS symmetrical. These shall be adjusted for a trip current that is 10 to 13 times the respective motor full load current.

9.15 New ASD Enclosure

(1) Enclosure

Enclosure size and ventilation shall be adequate to permit continuous full load operation at 35°C ambient. Ventilation fans shall be configured to operate whenever the drive load is operating, then stop an adjustable time period after the drive load has stopped. Timing relay shall be plug-in type with track mounted 8-pin socket. Timing relays shall be OMRON H3CR-H8L, or IDEC GT3F-2AF20.

Also operated in a similar manner shall be the constant torque motor cooling fan. The control power transformer shall be suitably sized for this additional load, and a suitable motor rated EEMAC Definite Purpose contactor shall be provided.

The enclosure shall consist of three separate sections, each with access door, such that each ASD can be serviced while the remaining ASD units are in operation.

Suitable warning lamicoids, having white letters on red background, shall be applied to enclosures as applicable:

WARNING - ENCLOSURE IS FED BY MORE THAN ONE SOURCE OF ENERGY

and also to enclosures housing solid state equipment with potentially dangerous leak through voltage (variable frequency adjustable speed drives):

WARNING - OUTPUT TERMINALS ARE CONSTANTLY AT LINE VOLTAGE

WHEN POWER IS CONNECTED

(2) Drives

Provided shall be PWM type variable frequency adjustable speed drives, each with a continuous output KVA rating at least 20% in excess of the full load current rating of the driven motor. Where the full load current rating is not readily available, an equivalent full load current rating shall be determined by reference to CEC, Table 44. In addition, the drive shall be capable of a 120% overload of unit rated current for 60 seconds.

In the event that motor operation or service life is significantly compromised by the supply of inappropriate drives, this shall be immediately rectified without additional cost.

Each variable frequency drive shall be CSA approved and rated for use on nominal 600 VAC, 60 Hz, 3 phase power. Semiconductors shall be rated for a peak voltage of at least 1600 V.

Programmable digital control shall permit adjustment of the IGBT output switching carrier frequency over a range of 0.5-5 kHz minimum. Acceleration rates, upper/lower speed limits and at least three (3) jump frequency bands shall be programmable to prevent mechanically damaging operation.

Drives shall have selectable V/F pattern, including:

- * Constant Torque
- * Variable Torque
- * Voltage Torque Boost
- * Flux Vector Control

Provided shall be an enclosure door mounted HAND-OFF-AUTO selector switch which in the HAND position shall permit immediate override local control of speed by means of an enclosure door mounted NEMA style potentiometer labelled SPEED and with graduated markings. In the OFF position the drive shall ramp to a complete stop. In the AUTO position, operation shall be similar to that in HAND, except for the unit being in standby, if so selected.

A "STANDBY" amber push-to-test light, drive "RUNNING" green push-to-test light and 4PDT drive running 120 VAC rated output contacts shall be provided, as well as a "FAULT" red push-to-test light and fault alarm 120 VAC rated output contact. Lights shall be enclosure door mounted.

Selector switches shall be industrial 30 mm oiltight type and of the same manufacturer throughout. Control relays shall be 4-pole plug-in type, rated minimum 6A and with test operator and track mounted sockets. Control relays shall be OMRON LY414, or IDEC RU4-120.

Hourmeter shall be of an easily readable size capable of recording over ten years of operation while also providing tenths of an hour indication and shall be non-reset type. Redington Models 710/711/720 approved.

An enclosure door mounted digital meter shall be provided to indicate nominal motor current, fed from a drive current output signal. This LED digital indicator shall be 120 VAC line powered with 5 digit display, selectable red or green, and shall be capable of scaling and zero limit programming by means of keys on EEMAC 4X rated front panel. Indicator shall be OMRON K3MA-J-100-240VAC.

Furnished shall be an enclosure door mounted alphanumeric display capable of presenting operating output current, as well as programming functions.

Control programming shall permit the drive to function as an approved Class 10 or Class 20 motor overload device.

The drives shall have line side MOV protection, load side ground fault protection and be repairable under warranty in the event of a motor lead short. Operation without motor load shall be permissible and drives shall be capable of restarting into a load rotating in either the direction of normal operation, or rotating in the opposite direction.

Drives shall be supplied with a three (3) year operating warranty, provided in writing by the drives manufacturer, that will cover any repair or replacement costs on an "at site" basis.

(3) Connection Diagram

The drives connection diagram(s) as shown on drawings is generic in nature. The drives supplier shall provide connection diagram(s) specific to the equipment proposed and configured for the functionality intended.

(4) Installation Harmonic Analysis

The drives supplier shall provide for a harmonic analysis and recommended ancillary line side harmonic mitigation as necessary for the installation to meet the following requirements at point of common coupling:

- * Minimum input power factor of 0.92 under all operating conditions, including no-drives-on.
- * IEEE 519 (1992) harmonic waveform standards.

Maximum drives sound level shall not exceed 75 dbA at one metre under all operating conditions.

The drives supplier harmonic analysis shall allow for a follow-up visit to site in order to monitor input power factor, RFI radiation and the operating current waveform total

harmonic distortion for both line and load after the drives have been installed. Three (3) copies of a comprehensive report outlining the final input power factor, RFI radiation and operating current waveforms shall be submitted.

(5) Line Side Harmonic Mitigation

Any of the following methodologies may be utilized to mitigate line side harmonics:

- * Harmonic trap (shunt) filters containing tuned circuits designed to remove harmonics generated within the power distribution system, and improve the operating power factor, shall be installed within the drive enclosures or in separate EEMAC 1 enclosures. Reactance shall not exceed 5%. Harmonic trap capacitors shall be fused and provide an output signal in the event of failure. The capacitor contactor shall be operable from a 120 VAC rated remote dry contact. The Contractor shall ensure that harmonic trap filters are fully compatible with the respective drives being fed. Harmonic trap filters shall be TCI (Trans-Coil, Inc.) HarmonicGuard Type "L".
- * Passive harmonic filters, each containing characterized inductor and ancillary capacitor bank, shall be installed within the drive enclosures or in separate EEMAC 1 enclosures. Passive harmonic filters shall only be applied to drives having diode bridge style rectifier and without DC choke. The Contractor shall ensure that passive harmonic filters are fully compatible with the respective drives being fed. Passive harmonic filters shall be Mirus Lineator UHF.
- * Twelve pulse drives having phase shift transformers and two six pulse rectifiers shall be provided installed within the drive enclosures or in separate EEMAC 1 enclosures. Each transformer shall be of delta-delta/wye-wye construction to provide balanced output voltages and have integral capacitors to ensure maximum harmonic mitigation. The Contractor shall ensure that phase shift transformers and six pulse rectifiers are fully compatible with the respective drives being fed. Transformers shall be TCI (Trans-Coil, Inc.) Type "KMP22AA".

(6) Load Side Harmonic Mitigation

The drives supplier shall also provide load side filters as necessary to eliminate voltage spikes in excess of 1000V and provide a voltage rise limit time of 2.0 ms. The combined inductance, capacitance, and resistance of the PWM output filter shall be specifically designed to reduce voltage waveform dV/dT and minimize parasitic resonance interaction between inductive and capacitive elements of the motor leads. Load side filters shall be TCI (Trans-Coil, Inc.) type "KLC" or Hammond "RC" Series.

(7) Attached Standby Selector Control Panel

Attached to the new ASD enclosure shall be a separate EEMAC 1 enclosure housing the blower in standby selector switch and required control relays.

(8) Programming

The drives supplier shall review with the Engineer all performance related drive configuration parameters prior to startup. These shall include carrier frequency, V/f pattern, maximum/minimum output frequencies, overload values, display scaling, acceleration/deceleration times and pattern. The supplier shall be responsible for configuring drives to perform to the satisfaction of the Engineer. Drives shall be fully capable of automatic restart, with any alarms cleared, subsequent to a power outage.

(9) Manuals

Provided for insertion within the general project operation and maintenance manuals shall be at least four copies of original equipment manufacturer printed manuals.

(10) Approved Suppliers & Products

The variable frequency drives shall be supplied by one of the following system integrators:

- Hampton Power (604-273-0561)	ABB
- Simark Controls (604-940-7772)	Toshiba
- ADS Drives (604-524-0505)	Yaskawa
- Vector Drive Systems (604-945-5225)	Yaskawa
- Arrow Speed (604-321-4033)	Mitsubishi
- TDS Controls (604-952-0100)	Baldor

9.16 Horizontal Electric Motors - ASD Constant Torque Application

(a) General

Motors shall be new horizontal solid shaft, squirrel cage induction Design B, having Class F insulation (155°C) with Class B rise (90°C) rise per latest EEMAC standards. Units shall be four pole (synchronous speed 1800 rpm) rated 40 HP, with a 1.15 SF. Motors shall be suitable for 575 volt, 60 Hz, 3 phase service.

Each motor shall be rated for continuous duty and sized such that it shall not be required to provide more than rated nameplate horsepower, at unity service factor and base speed, under any possible operating condition.

All motors shall meet the Provincial Minimum Motor Efficiency Standard (CSA Standard C390-93, Table 2).

As motors will be utilized with variable frequency adjustable speed drives they shall have enclosures that meet TEBC (Totally Enclosed Blower Cooled) design standards and shall be suitable for constant torque operation over a speed range of 1000:1, at up to 40°C ambient. Each motor shall meet NEMA MG1, Part 31 constant torque inverter duty requirements and

be capable of withstanding peak voltage spikes up to 1600V and rise times of 0.1 usec.

Constant velocity motor fan shall be suitable for 120 volt, 60 Hz, single phase operation.

All grease lubricated bearings shall be provided with standard "Alemite" fittings.

The motors shall have stainless steel nameplates on which shall be stamped all pertinent electrical and bearing information and the seal of the CSA.

Eyebolts or lifting lugs shall be provided on the motors and they shall be of adequate strength for lifting the motor. All metal parts shall be inherently corrosion-resistant or shall be protected with corrosion-proof coatings.

(b) Thermal Protection

Motors shall be equipped with temperature sensing thermostats installed adjacent to the stator windings. These shall have NC (normally closed) automatic reset contacts rated for 120 VAC.

(c) Submittal Data

Submitted motor data for review shall include the following information:.

- manufacturer type and frame designation
- horsepower and service factor
- full load speed
- insulation class
- design ambient temperature
- efficiency and power factor at 1/2, 3/4 and full load
- no load, full load and locked rotor currents
- design starting code
- constant velocity fan voltage and operating amperage.
- motor weight

(d) Approved Suppliers

Motors shall be Toshiba, USEM, Baldor, Marathon or approved equal.

GENERAL CONDITIONS OF CONTRACT

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GENERAL CONDITIONS OF CONTRACT

GENERAL

1. Contractor's Expenses

The Contractor shall at his own expense, unless it is expressly stipulated to the contrary, provide, supply, observe, perform and do everything which in the opinion of the Corporation may be required for the setting out, the execution and completion of the work, and the fulfilment of this contract.

2. Interpretations

In this contract, unless the context otherwise requires:

- (a) Wherever reference is made to a particular part or section the reference is primarily for convenience and in no way limits the application of the provisions of the specifications as a whole.
- (b) Wherever reference is made to a section and part number, it means the section and part of the specifications as a whole.
- (c) Words importing the singular shall include the plural and vice versa and words importing the masculine gender shall include the feminine and words importing persons, shall include bodies corporate.
- (d) "Plant" shall mean, as distinguished from work, anything and everything, except persons, used by the Contractor in the performance of the work, except material incorporated or to be incorporated in the structure being constructed under this contract.
- (e) "Site" means the place where the work is being performed and the immediate vicinity thereof.
- (f) "Day" means a calendar day.
- (g) Where the words "shown", "indicated", "detailed", "specified" or words of similar import are used such words shall refer to the specifications unless expressly stated otherwise.
- (h) Where the words "directed", "permitted", "approved", "accepted", "required" or words of similar import are used such words shall refer to the direction, permission, approval, acceptance or requirements of the Corporation unless expressly stated otherwise.
- (i) "The work" means and includes anything and everything required to be done for the setting out, the execution and the completion and the fulfilment of this contract to the satisfaction of the Corporation.

3. No Assignment or Sub-letting of Contract without Consent

The Contractor shall not assign, sub-let or let out as task work, any part of the work and shall not assign any interest herein or any right to payment hereunder without first having had and obtained the consent in writing of the Corporation which consent the Corporation may withhold in its absolute discretion. If the Corporation should consent to any such assignment, sub-letting or letting out as task work of all or any part of the work, the Contractor shall by reason thereof, be in no wise relieved from his responsibility for the fulfilment of said work, but shall continue to be responsible for the same in the same manner as if the said work had been performed by the Contractor himself.

4. Currency of Payment

All reference to money in this contract shall refer to and mean lawful money of Canada.

5. Law Applicable

This contract shall be construed under and according to the laws of the Province of British Columbia.

6. Interpretation of Specifications and Drawings

The specifications and drawings are intended to be explanatory of each other. Any work indicated in the drawings and not in the specifications or vice versa, is to be executed as if indicated in both. As the figured dimensions shown on the drawings and in the specifications of this contract may not in every case agree with the scale dimensions, the said figured dimensions shall be followed instead of the said scale dimensions and the drawings to a large scale shall be followed instead of the drawings to a small scale. Should it appear that the work to be done or any of the matters relative thereto, are not sufficiently detailed or explained in this contract, the Contractor shall apply to the Corporation for such further explanations as may be necessary and shall conform thereto as part of this contract, so far as may be consistent with the terms of this contract. In the event of any doubt or question arising respecting the true meaning of the specifications, reference shall be made to the Corporation and its decision thereon shall be final.

Where drawings are electronically produced, the hard copy of each design drawing will be the original document for both working and record purposes, and the hard copy will be used in the event of a dispute over any inconsistencies which may occur.

7. Headings to Sections and Clauses

Headings to sections, clauses and sub-clauses are inserted for convenience and reference only and shall not affect the interpretation of the contract.

8. Arbitration

In the case of any dispute between the Corporation and the Contractor during progress of the work or afterwards, or after the determination or breach of the contract, as to any matter arising thereunder, either party hereto shall be entitled to give to the other notice of such dispute and to demand arbitration thereof. Such notice and demand being given, each party shall at once appoint an arbitrator and these shall jointly select a third. The decision of any two of three arbitrators shall be final and binding upon the parties who covenant that their dispute shall be so decided by arbitration alone and not by recourse to any court by way of action at law. However, if within a reasonable delay the two arbitrators appointed by the parties do not agree upon a third, or a party who has been notified of a dispute fails to appoint an arbitrator, then a third arbitrator or an arbitrator to represent the party in default, or both such arbitrators may upon simple petition of the party not in fault, be appointed by a Judge of the Supreme Court of British Columbia. The Arbitration Act of the Province of British Columbia shall govern all arbitrations under this clause.

9. Discrimination, Canadian Content and Fair Wages

In the hiring and employment of labour engaged on the work, no person shall be refused employment or otherwise discriminated against in regard to employment because of that person's race, colour, religion or national origin.

To the extent to which the same are reasonably procurable, Canadian labour, materials and equipment shall be used in the construction of the work.

All persons employed in the construction of the work shall be paid the going wage rates in the local area, and the working hours of persons employed in the construction of the work shall not exceed eight hours per day nor forty-four hours per week except in emergency conditions.

INSURANCE

10. Public Liability and Property Damage

Forthwith after the execution of this agreement the Contractor shall obtain and maintain in force during the currency of this agreement in an insurance company and in a policy of insurance acceptable to and approved in writing by the Corporation the following insurance with limits on an occurrence basis not less than those shown in respective items following:

- (a) Comprehensive Public Liability Insurance and Property Damage Insurance providing coverage up to \$5,000,000.00 dollars inclusive against liability for bodily injury or death on an occurrence basis and/or damage to property on an accident basis.
- (b) Automobile Insurance for public liability and property damage providing coverage up to \$2,000,000.00 dollars inclusive on owned, non-owned or hired vehicles.
- (c) Completed Operations coverage up to \$5,000,000.00 dollars inclusive against liability for bodily injury, death and/or damage to property of others arising out of the existence of any

condition in the completed work or any installation or repair operations during the period of one year next ensuing after acceptance of the completed work by the Corporation.

In all policies of insurance providing coverage called for by this clause (except automobile insurance on vehicles owned by the Contractor), the Corporation and Dayton & Knight Ltd. shall be named as an additional insured. In all such policies each sub-contractor performing work under this agreement shall be named as an additional insured in respect of the performance of the work and each such policy shall provide that no cancellation or material change in the policy shall become effective until after thirty days notice of such cancellation or change shall have been given to the Corporation by registered mail, and the Contractor will upon demand of the Corporation deliver over to the Corporation all such policy or policies of insurance and the receipt for payment of premiums thereon, and should the Contractor neglect so to obtain and/or maintain in force any such insurance as aforesaid or deliver such policy or policies and receipts to the Corporation, then it shall be lawful for the Corporation to obtain and/or maintain such insurance and the Contractor hereby appoints the Corporation his true and lawful attorney to do all things necessary for this purpose. All monies expended by the Corporation for insurance premiums under the provisions of this clause shall be charged to the Contractor.

RESPONSIBILITIES AND RIGHTS OF CONTRACTORS

11. Service of Notices

Any notice, order, direction, request or other communication given by the Corporation to the Contractor under this contract shall be deemed to be well and sufficiently given to the Contractor if the same be left at any office used by the Contractor, or be delivered to any of his officers, clerks or servants, or be mailed at any post office addressed to the Contractor's last known place of business or be posted on the site of the work and, if mailed, shall be deemed to have been given to and received by the Contractor three days after the day of mailing in any post office or mail box in British Columbia.

12. Class of Employees

Should the Corporation object to any person employed or sub-contractor used by the Contractor on the work, the Contractor shall remove such person from the work, it being understood and agreed that the Corporation's non-objection to any person or sub-contractor employed by the Contractor on the work shall not be deemed to be an approval of the Corporation of such person, and the Contractor, by reason of such non-objection or any reason of the Corporation's approval of any person or sub-contractor employed by the Contractor, shall in no wise be relieved from his responsibilities for the employment of such person or sub-contractor or from the performance and fulfilment of the work. The Contractor shall at all times in connection with the execution of the work, keep and employ a competent general superintendent and a sufficient number of senior assistants capable of speaking, reading and writing the English language, at least one of whom must be at the site of the work at all times while such work is under progress, and any explanations, orders, instructions, directions and requests given by the Corporation to such superintendent or one of his senior assistants shall be held to have been given to the Contractor.

13. Liability of Contractor

The mention of any specific duty or liability imposed upon the Contractor shall not be construed as a limitation or restriction of any general liability or duty imposed upon the Contractor by this contract, the reference to any specific duty or liability being made herein merely for the purpose of explanation.

14. Damage to Work

The work shall be under the Contractor's responsible care and charge. The Contractor shall bear all loss and damage whatsoever and from whatsoever cause arising, except that caused solely by the act of the Corporation, which may occur on or to the work during the fulfilment of this contract. If any such loss or damage occurs the Contractor shall immediately make good any such loss or damage, and in the event of the Contractor refusing or neglecting so to do, the Corporation may itself or by the employment of some other person make good any such loss or damage, and the expense of so doing shall be charged to the Contractor.

15. Indemnification of Corporation

The Contractor shall indemnify, protect and save harmless the Corporation, its officers, agents, servants and employees from and against all actions, causes of actions, claims and demands of every kind, description and nature whatsoever arising out of or in any way connected with fulfilment of this contract, and all such actions, causes of actions, claims and demands recoverable from the Corporation or the property of the Corporation, shall be paid by the Contractor, and, if recovered from the Corporation or the property of the Corporation, shall together with any costs and expenses incurred therewith be charged to the Contractor.

16. Protection of Corporation against Patent Claims

The Contractor shall hold and save the Corporation, its officers, agents, servants, and employees, harmless from liability of any nature or kind, including costs and expenses for or on account of any copyrighted or uncopyrighted composition, secret or other process, patented or unpatented invention, articles or appliances manufactured or used in the performance of this contract, and/or used or to be used by the Corporation before or after completion of the work unless otherwise stipulated in this contract, and if the Contractor shall fail to save harmless the Corporation, its officers, agents, servants or employees in the manner aforesaid, any money collected from the Corporation, its officers, agents, servants or employees by reason of such failure shall be charged to the Contractor.

17. Protection of Contractor's Work and Property

The Contractor alone shall at all times be responsible for the safety, adequacy, efficiency and sufficiency of his employees and shall also be responsible for the safety, adequacy, efficiency and sufficiency of his sub-contractor's employees and his sub-contractor's plant and equipment and his method of prosecuting the work.

18. Regulations and Permits

The Contractor shall prosecute the work in a lawful manner and shall pay any or all fees or other sums of money payable to any public body or officer or to any person in respect of the fulfilment of this contract.

19. Approval of Contractor's Plans

The approval by the Corporation of any drawing or any method of work proposed by the Contractor shall not relieve the Contractor of his responsibility for any errors therein and shall not be regarded as any assumption of risk or liability by the Corporation or any officer or employee thereof, and the Contractor shall have no claim under this contract on account of the failure or partial failure or inefficiency of any plan or method so approved. Such approval shall be considered to mean merely that the Corporation has not objected to the Contractor's using, upon his own full responsibility, the plan or method proposed.

20. Suggestions to Contractor

Any plan or method of work suggested by the Corporation to the Contractor, but not specified or required, if adopted or followed by the Contractor in whole or in part, shall be used at the risk and responsibility of the Contractor, and the Corporation shall assume no responsibility therefore.

21. Proof of Compliance with Contract

In order that the Corporation may determine whether the Contractor has complied with the requirements of this contract not readily enforceable through inspection and tests of plant, equipment, work or materials, the Contractor shall, at any time when requested, submit to the Corporation properly authenticated documents or other satisfactory proofs as to his compliance with such requirements.

22. Errors and Omissions

If the Contractor, in the course of the work, finds any errors or omissions in drawings or in the layout as given by survey points and instructions, or if he finds any discrepancies between the drawings and the physical conditions of the locality, he shall immediately inform the Corporation, in writing, and the Corporation if it deems it necessary, shall rectify the matter and advise the Contractor accordingly. Any work done after such discovery, until authorized, will be done at the Contractor's risk.

23. Co-operation

The Corporation shall be at liberty to enter upon the site of the work with workmen and materials to do work not comprised in this contract and the Contractor shall afford any such workmen all reasonable facilities to the satisfaction of the Corporation. The Contractor shall arrange his work and dispose of his materials in such a manner as will not interfere with the work or storage of materials of the Corporation or of others upon the site of the work. The Contractor shall join his

work to that of others and perform his work in proper sequence in relation to that of others to the satisfaction of the Corporation.

The Contractor shall co-operate with all contractors who may be performing work on behalf of the Corporation and workmen who may be employed by the Corporation on any work in the vicinity of this project. He shall make good promptly, at his own expense, any injury or damage that may be sustained by other contractors or employees of the Corporation at his hand.

Any difference or conflict arising between the Contractor and any other contractor employed by the Corporation with regard to their work shall be submitted to the Corporation and the Contractor shall abide by its decision in the matter.

24. Clean-up and Removal of Obstructions

The Contractor shall remove all obstructions which may arise or be found during the execution of the work and shall repair, restore or make good all places and things disturbed, and shall clear away from the site of the work all rubbish as it accumulates, and shall at the completion of the work leave the work and the site thereof in a clean and presentable condition, free from all obstruction and ready for use by the Corporation to the satisfaction of the Corporation, and shall if so requested by the Corporation, remove and dispose of all plant, articles, loose materials and every other matter brought on the site of the work by the Contractor in the time and manner contained in the Corporation's request, and if the Contractor shall refuse or neglect to comply with the terms of the said request within the time and manner mentioned in the said request to the satisfaction of the Corporation then the Corporation may itself or by the employment of some other person fulfil the terms of the said request. The terms of this contract shall not be deemed to have been fulfilled unless and until the provisions of this clause have been complied with and if the Corporation itself or by the employment of some other person performs the Contractor's work hereunder, in the manner aforesaid, all expense in connection therewith shall be charged to the Contractor.

25. Deviation from Contract

The Contractor shall not make any alteration or variation in, or addition to, or deviation or omission from the terms of this contract without the written consent of the Corporation.

26. Payment for Labour and Materials

The Contractor shall pay any and all accounts for labour (including Workers' Compensation, Unemployment Insurance assessment and wage and salary deductions required by law), services and materials used by him during the fulfilment of this contract as and when such accounts become due and payable, and shall furnish the Corporation with proof of payment of such accounts in such form and as often as the Corporation may request. Should payment of such accounts not be made when and as the same become due, the Corporation shall be at liberty to pay the same and all monies so paid by the Corporation shall be charged to the Contractor.

27. Charges to Contractor

Everything charged to the Contractor under the terms of this contract shall be paid by the Contractor to the Corporation on demand and may be deducted by the Corporation from any monies due or to become due to the Contractor under this contract and may be recovered by the Corporation from the Contractor or his surety.

28. Fire Precautions

In the event of a fire (other than a controlled fire) occurring in the area of the Contractor's operations, the Contractor shall be required to fight the fire at his own expense, to the full extent of his manpower and equipment employed under this contract at the time of the fire and his failure to do so shall make him liable for all damage resulting therefrom and he shall indemnify and hold harmless the Corporation in respect of any damage or loss which the Corporation is required to bear as a result of any act, omission, or negligence on the part of the Contractor, or the Contractor's employees or sub-contractors and all such damage or loss shall be charged to the Contractor.

29. Explosives

The method and times of use and the character of all explosives shall be subject to the approval of the Corporation. On using explosives, the Contractor shall exercise the utmost care so as not to endanger life or property. The storage of explosives shall be in accordance with the provisions of the "Explosives Act" and regulations made thereunder and with any requirements of the representative of the Explosives Division of the Federal Department of Mines. The greatest care shall be exercised at all times by the Contractor in blasting operations.

RESPONSIBILITIES AND RIGHTS OF CORPORATION

30. Authority

The whole of the work and the manner of performing the same shall be done to the entire satisfaction and approval of the Corporation, and it shall be the sole judge of the work and materials, in respect of both quantity and quality and its decisions with regard to work and materials shall be final and binding upon the Contractor.

31. Inspection

All or any part of the work and all workshops or other places where material for the work is being prepared or stored, may be inspected by the Corporation when and as often as the Corporation shall deem it expedient, and the Contractor shall afford every facility and access requested and shall give any and all information requested by it in connection therewith. No payment will be made for the cost to the Contractor of any work or delay occasioned by such inspection and no extension of time will be allowed for any delay occasioned thereby.

The Contractor shall, at the request of the Corporation and within such time as the Corporation shall designate, open for inspection any part of the work covered up, and should the Contractor

refuse or neglect to comply with such request, the Corporation may employ any other person to open up the same or do so itself. If any of the said parts of the work has been covered up in contravention of the Corporation's instructions, or if on being opened up it is found not to be in accordance with the terms of this contract, the expense of opening and covering up again, whether done by the Contractor or not, shall be charged to the Contractor. If the work has not been covered up in contravention of the Corporation's instructions, and is found to be in accordance with the terms of this contract, the expense aforesaid shall be borne by the Corporation and if the work of opening up is done by the Contractor shall be added to the contract price.

32. Improper Materials and Workmanship

When and as often as the Corporation is not satisfied with the work done or being done or with the manner or time in which it is being done under this contract or with the kind or quality of materials supplied in connection therewith, it may give notice of its dissatisfaction to the Contractor either verbally or in writing and the Contractor shall immediately upon receipt of such notice do all things that are required to satisfy the Corporation. Should the Contractor refuse or neglect to so satisfy the Corporation within the space of three (3) days from the receipt of such notice, the Corporation may employ some other person to do or may itself do all things required to obtain such satisfaction and for such purpose may use or allow the use of the Contractor's plant and equipment, and all expense and costs consequent thereon or incidental thereto shall be charged to the Contractor, PROVIDED that the employment of such other person or the doing of said work by the Corporation itself shall in no way affect the Contractor's duties and liabilities hereunder not in any way relieve him from the performance and fulfilment of any or all of his covenants, undertakings, obligations and duties under this contract. The fact of the Corporation not having disapproved of or rejected any part of the work or any of the materials supplied in connection therewith at the time of the Corporation making an estimate hereunder or at any other time during the continuance of this contract shall not be deemed or be construed to be an acceptance of any such part of the work or any such materials.

33. Retention of Imperfect Work

If in the opinion of the Corporation any portion of the material supplied or furnished or work done under this contract is defective or not in accordance with the specifications and drawings and if the imperfection in the same is not of sufficient magnitude or importance to make the work dangerous or undesirable or if the removal of such material or work is impracticable, or will create conditions which are dangerous and undesirable the Corporation shall have the right and authority to retain such material or work instead of requiring the imperfect material or work to be removed and reconstructed. The Corporation may make, by reason thereof such deduction in the payments due or to become due the Contractor as it may deem just and reasonable.

34. Varying Progress

The Contractor shall upon the request in writing of the Corporation, suspend any work that, in the judgement of the Corporation, may be subject to damage, or stop the work or any portion thereof, or increase and improve the facilities and methods of the carrying on of the work or any portion thereof or reduce or increase the number of persons employed by him in connection therewith in accordance with the Corporation's request, and the Contractor shall have no claim upon the

Corporation for damages or compensation by reason thereof. Should the Contractor refuse or neglect to comply with the said request in writing of the Corporation within the space of three (3) days from the giving to him of such request, any such refusal or neglect on his part shall be deemed to be a failure on his part to comply with the provision of this contract within the meaning of Clause 32 hereof.

35. Dismissal of Contractor

In the event of the Contractor at any time failing to comply with the provisions of this contract to the satisfaction of the Corporation, the Corporation immediately shall become empowered hereby to enter on the site and take possession of the work and to dismiss and discharge the Contractor from further execution of the work and to complete the same itself or employ some other person to complete the same and for such purposes to use or allow the use of the Contractor's plant or any part thereof, PROVIDED that the entire expense of the completion of the work whether done by the Corporation itself or by the employment of another person shall be charged to the Contractor, AND PROVIDED FURTHER that the doing of such work by the Corporation itself or by the employment of another person shall in no wise relieve the Contractor from any of his covenants, undertakings, duties and obligations under this contract, nor limit the rights and remedies of the Corporation hereunder in any manner whatsoever.

36. Use of Completed Portions

The Corporation shall have the right to take possession of and use any completed or partially completed portions of the work, notwithstanding the time for completing the work or such portions may not have expired, but such taking possession and use shall not be deemed an acceptance of any part of the work not completed. If such prior possession or use increases the cost of or delays the work, the Contractor shall be entitled to such extra compensation, or extension of time or both, as the Corporation may determine.

37. Waiver of Right of Corporation

No action nor want of action on the part of the Corporation at any time to exercise any rights or remedies conferred upon it under this contract shall be deemed to be a waiver on the part of the Corporation of any of its said rights or remedies.

38. Right of Changes

When additional information regarding foundation or other conditions becomes available as a result of excavation work, further testing or other design consideration, it may become desirable to change the alignment, dimensions or design of any structure or appurtenant work to conform to such conditions. The Corporation reserves the right to make such reasonable changes as, in the opinion of the Corporation, may be considered necessary or desirable, and the Contractor shall be entitled to no extra compensation because of such changes except as provided in the Schedule of Prices for Indeterminate Items.

WORKMANSHIP, MATERIALS AND EQUIPMENT

39. General Quality

The whole of the work shall be done in the most substantial workmanlike manner with new materials, articles and workmanship of the latest and best quality and description and in strict conformity with and as required by this contract. The Contractor shall upon the request of the Corporation furnish it with all vouchers, receipted bills and other documents showing materials, articles and workmanship used by the Contractor in doing the work.

40. Quality in Absence of Detailed Specifications

Whenever under this contract it is provided that the Contractor shall furnish materials or manufactured articles or shall do work for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market from suppliers of established good reputation, or, if not ordinarily carried in stock, shall conform to the usual standards for first-class materials or articles of the kind required, with due consideration of the use to which they are to be put. In general, the work performed shall be in full conformity and harmony with the intent to secure the best standard of construction and equipment in the work as a whole or in part.

41. Materials and Equipment Specified by Name

Whenever any material or equipment is indicated or specified by patent or proprietary name or by the name of the manufacturer, such indication or specification shall be considered as used for the purpose of describing the material or equipment desired and shall be considered as if followed by the words "or approved equal". The Contractor may offer material or equipment with equal or better qualities and performance in substitution for those indicated or specified which he considers will be in the Corporation's interest to accept. Any such offer shall be made in writing to the Corporation for its consideration at least four (4) weeks in advance of the time at which the Contractor wishes to order the said material or equipment for use in the work. The use of any material or equipment so offered shall be permitted only after receipt by the Contractor of written acceptance of his offer by the Corporation.

42. Storage of Materials and Machinery

Materials to be incorporated in the work shall be so stored as to ensure, to the satisfaction of the Corporation, the preservation of their quality and fitness for the work. They shall be so located that prompt work and proper inspection thereof may be made.

43. Samples and Tests

In the case of materials to be supplied by the Contractor, samples shall, if and when required by the specifications or the Corporation, be prepared and submitted by the Contractor for approval and these samples or test specimens shall be prepared and furnished with information as to their source in such quantities and sizes as may be required for proper examinations and tests with all freight

charges prepaid.

All samples shall be submitted before shipment and in ample time to permit the making of proper tests, analyses, examinations, rejections and resubmissions before the time at which it is desired to incorporate the material into the work. All tests of materials furnished by the Contractor shall be made by the Corporation in accordance with a recognized standard practice. No such materials shall be used in the work unless or until they have been approved, in writing, by the Corporation, and samples of materials shall be retained by the Corporation for reference and comparison purposes.

The cost of supplying, preparing and delivering all samples shall be borne by the Contractor. The cost of testing will be borne by the Corporation.

44. Examination and Tests on Completion

In addition to the examinations and tests called for in the specifications, the Contractor may be required, before final acceptance of the work, to provide at his own expense, any material and labour necessary for the carrying out of further examinations and tests which, in the opinion of the Corporation are required to satisfy it that all work is in accordance with the contract.

TIME FOR WORK

45. Time is of the Essence

Time shall be strictly of the essence of this contract. Time of completion shall be as set forth in the agreement.

46. Extension of Time

If the Contractor desires to claim an extension of the work time allowed for the completion of all or part of the work by reason of being ordered to perform extra work and/or furnish extra material or consequent upon any delay occasioned by strikes, lockouts by other than the Contractor himself alone, force majeure, or other cause beyond the control of the Contractor, he must give notice in writing to the Corporation within three (3) days after any such order has been given or such delay has first arisen, stating the reason for such delay and requesting an extension of time and in such event, the Corporation shall in its absolute discretion determine what extension of time, if any, shall be allowed the Contractor for the completion of the work. No claim by the Contractor for an extension of the time allowed for the completion of all or any part of the work shall be considered or allowed by the Corporation unless presented in the manner and within the time prescribed therefor in this clause, unless the Corporation determines otherwise.

47. Saturday, Sunday, Holiday and Night Work

No work shall be done between the hours of 6 p.m. and 7 a.m. or on Saturdays, Sundays or legal holidays except such work as is necessary for the proper care and protection of the work already performed or except in case of an emergency and in any case only with the permission of the

Corporation.

It is understood, however, that night or Saturday work may be established as a regular procedure by the Contractor if he first obtains the written permission of the Corporation, and that such permission may be revoked at any time by the Corporation, if the Contractor fails to maintain an adequate force and equipment for reasonable prosecution and to justify inspection of the work.

PAYMENT FOR WORK

48. Progress Estimates and Payments

Approximate estimates of the work done under this contract will be made by the Corporation at the end of each calendar month, and payments thereon will be made by the Corporation to the Contractor on or about 30 days after the end of each month. The amount of any such payments shall be the amount determined by the Corporation as being the amount provided in this contract for the prosecution of such work as is shown on the approximate estimates, less 10 percent thereof and less all previous payments on account thereof. No such payment for the work shown on any of such approximate estimates shall be made to the Contractor unless and until he has presented to the Corporation a certificate from a duly authorized representative of the Corporation that the work set out in any of the approximate estimates has been executed by the Contractor in accordance with the terms of this contract and the presentation of such certificate shall be a condition precedent to the right of the Contractor to be paid under this contract unless the Corporation determines otherwise. The Corporation shall have the right to retain the said 10 percent of the amount of the said monthly payments as additional security for the fulfilment of this contract and until this contract has been fulfilled to the satisfaction of the Corporation.

49. Estimates Approximate Only

The said monthly estimates and certificates prepared and issued by the duly authorized representative of the Corporation shall not bind the Corporation in any manner in the preparation of its final estimate of the work done by the Contractor under this contract but shall be construed and held to be approximate only, and shall in no case be taken as an acceptance of the work or as a release of the Contractor from his responsibility under this contract.

50. Final Acceptance and Payment

The Corporation will pay to the Contractor the balance of the contract price owing hereunder on the expiration of fifty-five (55) days after the presentation to it by the Contractor of a certificate from a duly authorized representative of the Corporation that the work has been fulfilled to his satisfaction within the time or times limited by this contract and upon delivery to it by the Contractor of such release, discharges and waivers of and from any and all claims, demands and lien claims for and in respect of all matters and things growing out of or connected with this contract or the subject matter hereof and of or from all claims, demands and lien claims whatsoever by the Contractor, or by anyone else as may be deemed expedient by the Corporation. The presentation of such a certificate and the delivery of such releases, discharges and waivers shall, unless the Corporation determines otherwise, be a condition precedent to the payment to the Contractor of the said balance of the

contract price.

51. Extra Work and Materials

The Contractor shall, when ordered in writing by the Corporation, perform extra work and/or furnish extra material not covered by the specifications or included in the Schedule of Quantities and Prices, but forming in the judgment of the Corporation, an inseparable part of the work. Extra work and material will ordinarily be paid for at a lump sum or unit price to be agreed upon by the Contractor and the Corporation in writing. Whenever, in the judgment of the Corporation, it is impracticable because of the nature of the work or for any other reason to fix the price in the order, the extra work and material shall be paid for at actual necessary cost as determined by the Corporation, plus ten percent, for superintendence, general expense and profit, plus a further ten percent for sub-contractor superintendence (where applicable) general expense and profit. The actual necessary cost will include all expenditures for material, labour (including Workers' Compensation, Unemployment Insurance, holiday pay and other applicable payment required by law) and supplies furnished by the Contractor, and a reasonable allowance for the use of his plant and equipment where required, to be agreed upon by the Contractor and the Corporation in writing, but will in no case include any allowance for office expenses, general superintendence or other general expense. Should the Contractor and the Corporation fail to agree in writing on any matter to be agreed upon between them under this clause, the Contractor shall nevertheless immediately proceed to perform the extra work and/or furnish the extra material ordered and such matter shall be referred to the arbitration of three persons, one to be appointed by the Contractor, one to be appointed by the Corporation and the third to be appointed by such two persons before the reference is proceeded with, and the decision of any two of the arbitrators shall be binding and these presents shall be deemed to be a submission to arbitration within the provisions of the Arbitration Act.

52. Work and Materials Omitted

The Contractor shall, when ordered in writing by the Corporation, omit work and/or material to be done and/or furnished under this contract and the value of the omitted work and/or material will be deducted from all subsequent payments. The value of omitted work and/or material will be a lump sum or unit price agreed upon by the Contractor and the Corporation in writing. Should the Contractor and the Corporation fail to agree, the Contractor shall nevertheless omit the work and/or material so ordered to be omitted and the value thereof shall be referred to the arbitration of three persons, one to be appointed by the Contractor, one to be appointed by the Corporation and the third to be appointed by such two persons before the reference is proceeded with, and the decision of any two of the arbitrators shall be binding and these presents shall be deemed to be a submission to arbitration within the provisions of the "Arbitration Act".

53. Compensation to the Corporation for Extension of Time

In case the work is not complete within the time limited therefor, the Corporation may extend the time of completion. If the time limit be so extended, the Corporation shall have the right to charge to the Contractor and to deduct from the final payment for the work, the actual cost to the Corporation of engineering, inspection, superintendence, and other overhead expenses which are directly chargeable to the contract and which accrue during the period of such extension, except that

the cost of final surveys and preparation of final estimate shall not be included in such charges.

54. Liquidated Damages for Delay

If the work is not completed before or upon the expiration of the time limited therefore, all cost which the Corporation shall be put to by reason thereof shall be charged to the Contractor.

55. Estimated Quantities

The respective amounts of work to be done and materials to be furnished under this contract with respect of each of the items described in detail in the specifications have been preliminarily estimated as set forth in the Schedule of Quantities and Prices and this estimate will be used as a basis for comparing tenders. The Corporation does not expressly nor by implication agree that the actual amounts of work or of materials of any class will correspond even approximately to this estimate, but reserves the right to increase or decrease the amounts of any class or portion of the work in its interest. Some of the items may even be eliminated by the Corporation. The Contractor shall make no claim for anticipated profits, for loss of profit, for damages, or for any extra payment whatsoever, except as provided for herein, because of any difference between the amounts of work actually done or material actually furnished and the estimated amounts as herein set forth.

NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1

FORM OF TENDER

_____, 2004

To: District of Fort St James
389 Stuart Drive West
Fort St. James, B.C.
V0J 1P0

The undersigned Tenderer offers to enter into, execute and deliver to you an agreement in the relative form annexed to find and supply all the plant, material, labour and workmanship and to do everything necessary to do the work for the fulfilment of Contract No. 403.1, specified in the said form of agreement hereunto annexed, at the prices and on the terms and conditions therein contained, and within the time therein limited.

The immediately following schedules, entitled Schedules 1 through 7, shall be read with and form part of this Tender as if embodied herein.

The undersigned tenderer hands you herewith either a bid bond or a guarantee company authorized to carry on business in the Province of British Columbia, or a certified cheque on a chartered bank located in British Columbia, for payment to you of a sum of at least ten percent (10%) of the total amount of tender. The amount payable to you under the said bid bond, or certified cheque as the case may be, shall be forfeited to you as liquidated damages in case of failure or neglect of the tenderer to furnish, execute and deliver to you the required performance and fulfilment guarantees, and to enter into, execute and deliver to you the said agreement within ten (10) days after being notified in writing of your acceptance of this offer.

It is hereby agreed that once the tenders for this contract have been opened, this tender and the offer constituted hereby shall be not revoked before EITHER acceptance thereof by you, OR the expiration of ninety (90) calendar days after the opening of tenders, whichever shall first occur.

SIGNED, SEALED AND DELIVERED

By:

In the presence of:

SEAL

(Witness to Individual Tenderer
OR Authorized Signing Officers
of Corporate Tenderer)

Name of Tenderer (Company)

Signature and Seal of Tenderer

Address of Tenderer

Telephone

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SCHEDULE 1 - QUANTITIES AND PRICES

This Schedule shall be read with and form part of the Tender.

Unit Prices, Amount and Total Tender Price must be filled in. All extensions of the Unit Prices shown will be subject to verification by the Engineer. In case of variation between the Unit Price and the resulting Amount, the Unit Price shall govern.

SCHEDULE A - BASIC WORK

No.	Description or Classification of Work	Unit	Approx. Qty.	Unit Price (\$)	Total Price (\$)
1.	Mobilization and demobilization	L. Sum			
2.	200 mm dia. Air Header	L. Sum			
3.	Septage Receiving Chamber	L. Sum			
4.	Sludge Removal	m ³	1,500		
5.	Temporary Pumping Equipment	L. Sum			
6.	Aeration System	L. Sum			
7.	Drain Down Sump Manholes	L. Sum			
8.	Removal/Relocation of Existing Monorails	L. Sum			
9.	Blower Packages	L. Sum			
10.	Blower Inlet Ducting	L. Sum			
11.	Electrical Work	L. Sum			
Sub-Total					
GST @ 7%					
SCHEDULE A - TOTAL AMOUNT OF TENDER					

SCHEDULE 1 - QUANTITIES AND PRICES (cont'd.)

SCHEDULE B - OPTIONAL ADDITIONAL WORK (NOT USED)

(Total Price shall include 7% GST)

No.	Description or Classification of Work	Unit	Approx. Qty.	Unit Price (\$)	Total Price (\$)

Estimated number of person-week jobs created by this Contract: _____

It is understood and agreed that the quantities stated herein are approximate only and are given for the purpose of providing a uniform basis for the comparison of tenders.

The Corporation reserves the right to delete any work from the Contract. The specific items which may be deleted are designated in the Schedule of Quantities and Prices.

Payment will be made only on the quantities as actually determined on final measurements.

It is understood that the lowest or any tender will not necessarily be accepted, and the award of a Contract will be subject to funds being legally available.

Company Name

Witness

Signature of Tenderer

Date

Address of Tenderer

Telephone Number

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SCHEDULE 2 - TENDERER'S PROPOSED VARIATIONS

This is Schedule 2 of the tender and shall be read with and form part thereof as if embodied therein.

The following is a full and complete statement and description of the tenderer's proposed variations to the specifications and/or drawings.

Signature of Tenderer

Date

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SCHEDULE 3 - LIST OF SUBCONTRACTORS AND SUPPLIERS

This is Schedule 3 of the Tender and shall be read and form part of thereof, as if embodied therein.

SUPPLIERS	
Name	Materials
	Aeration Equipment
	Concrete
	Blowers
SUBCONTRACTORS	
	Concrete Septage Receiving Chamber
	Sludge Removal
	Monorail Relocation
	Blowers
	Aeration Equipment
	Blower Inlet Ducting
	Piping
	Electrical

Signature of Tenderer

Date

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SCHEDULE 4 - PROPOSED METHOD OF CONSTRUCTION

This is Schedule 4 of the tender and shall be read with and form part thereof as if embodied therein.

Describe in detail proposed method of construction (Refer to Section 1.34 of the Technical Specifications).

Signature of Tenderer

Date

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SCHEDULE 5 - LIST OF MAJOR SUPPLIERS AND MATERIALS

The following list of the major materials which the Tenderer proposes to use and incorporate in the work:

Concrete Supplier:

Blowers:

Aeration Equipment:

Additional numbered pages outlining this portion of the Tender may be attached to this page. Each one should be headed "Tender - Schedule 5" and be signed and dated by the Tenderer.

Signature of Tenderer

Date

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

SCHEDULE 6 - FORCE ACCOUNT RATES

This is Schedule 6 of the Tender and shall be read with and form part thereof as if embodied therein.

The following tendered rates shall form the basis of payment for force account work carried out in accordance with Section 1.

PERSONNEL

Description	Hourly Rate	Overtime Hourly Rate

**NAK'AZDI BAND/DISTRICT OF FORT ST JAMES
UPGRADE OF THE EXISTING SEWAGE LAGOON
CONTRACT NO. 403.1**

UNDERTAKING OF SURETY

Should it be required, we the undersigned do hereby undertake and agree to become bound to the Nak'azdi Band/District of Fort St. James in a performance and fulfilment bond, each in terms satisfactory to the Corporation for fifty percent (50%) of the total accepted tender price for the fulfilment of Upgrade of the Existing sewage Lagoon all as specified herein, if the said contract is awarded to:

of

Dated _____, B.C., this _____ day of _____, 2004.

Guarantee of Surety Company
authorized to carry on business
in the Province of British Columbia.

FORM OF LETTER OF CREDIT
(TO BE ON BANK LETTER HEAD)

_____ day of _____, A.D., 2004

District of Fort St James
389 Stuart Drive West
Fort St James, B.C.
V0J 1P0

Dear Sirs:

IRREVOCABLE COMMERCIAL LETTER OF CREDIT NO. _____

RE: Upgrade of the Existing Sewage Lagoon
Contract No. 403.1

We hereby authorize you to draw on (NAME OF BANK), (ADDRESS OF BANK), Province of British Columbia, for account of (NAME OF TENDERED), up to an aggregate amount of \$ _____ available by drafts at sights for 100% of value.

1. Drawings are to be in writing to (NAME OF BANK).
2. Partial drawings may be made.
3. The Bank will not inquire as to whether or not the District of Fort St James has right to make demand on this Letter of Credit.
4. This Letter of Credit is irrevocable up to the Contract date of completion.

DRAFTS MUST BE DRAWN AND NEGOTIATED NOT LATER THAN
_____ day of _____ A.D., 2004 (specified Contract date of completion).

The drafts drawn under this Credit are to be endorsed hereon and shall state on their face that they are drawn under (NAME OF BANK), (ADDRESS OF BANK), Letter of Credit No. _____.

Yours very truly,

Manager,
On Behalf of
(NAME OF BANK)

BID BOND

KNOW ALL MEN BY THESE PRESENTS THAT

(hereinafter called the Principal), as Principal and

(hereinafter called the Surety), as Surety, are jointly and severally held and firmly bound unto

(hereinafter called the Oblige), as Oblige, in the penal sum of

(\$ _____) of lawful money of Canada, for the payment whereof unto the Oblige, the Principal, and Surety jointly and severally bind themselves forever firmly by these presents.

WHEREAS, the Principal is herewith submitting its offer for the fulfilment

of _____

NOW THEREFORE, the condition of this obligation is such that if the Principal is awarded said contract and if the Principal within the time specified in the tender for such contract enters into, executes and delivers to the Oblige an agreement in the relative form annexed, and if the Principal and Surety within the time specified in the said tender give a good and sufficient performance and fulfilment bond in the relative form annexed for fifty (50) percent of the total accepted tendered price to secure the performance and fulfilment of the terms and conditions of the said contract, then this obligation shall be void; otherwise the Principal and Surety will pay unto the Oblige the difference in money between the amount of the tender of the Principal and the amount for which the Oblige legally contracts with another party to perform the work of the said contract if the latter amount be in excess of the former, but in no event shall the Surety's liability exceed the penal sum hereof.

AND IT IS HEREBY DECLARED AND AGREED, that the Surety shall be liable under this obligation as fully as if it were the Principal, and that nothing of any kind or nature whatsoever that will not discharge the Principal shall operate as a discharge or a release of liability to the Surety, any law, rule or equity or usage relating to the liability of sureties to the contrary notwithstanding.

IT IS HEREBY DECLARED AND AGREED that this obligation shall be binding upon and ensure to the benefit of the Principal, the Surety and the Oblige and upon and to their respective heirs, executors, administrators, successors, and assigns, and every of them as if the words "heirs, executors, administrators, successors, and assigns" had been inscribed in all necessary places.

BID BOND (Continued)

SIGNED AND SEALED THIS _____ day of _____, 20____.

(Signature of Tenderer)

(Signature of Surety)

AGREEMENT

THIS AGREEMENT made this _____ day of _____ BETWEEN:

(herein called "The Contractor")

OF THE FIRST PART

AND:

(herein called "The Corporation")

OF THE SECOND PART

WITNESSETH AS FOLLOWS:

1. In consideration of the covenants and agreements hereinafter contained and to be performed by the Corporation the Contractor hereby agrees with the Corporation to do the following work, viz:

(a) To do the work of

on the terms and conditions herein contained and at the prices herein specified and within the time limited, and

(b) To commence and actively proceed with the work within ten (10) days from the date of receiving notice from the Corporation to proceed with the work.

2. In consideration of the performance by the Contractor of all and singular the covenants and agreements herein contained and to be performed by the Contractor, the Corporation HEREBY COVENANTS AND AGREES with the Contractor that it will pay to him the sum or sums of money herein specified as payment for the fulfilment of the work.

3. IT IS UNDERSTOOD AND AGREED by and between the parties hereto that the specifications, the schedule of quantities and prices, the drawings, the tender including all schedules thereto, the general conditions of contract, and further details and instructions in explanation thereof as may from time to time be given by the Corporation, shall be read with and form part of this agreement as if embodied herein.

4. IT IS FURTHER UNDERSTOOD AND AGREED between the parties hereto that the Contractor, in entering into and executing this agreement, has relied on his own examination of the site, the access to the site, and on all other data, matters, and things requisite to the fulfilment of the work, and not on any representation or warranty of the Corporation.

AGREEMENT (Continued)

5. IN THIS AGREEMENT, unless the context otherwise requires, "Contract" shall be construed to mean and include this agreement.

6. WHENEVER in this agreement it is stipulated that anything shall be done or be performed by either of the parties hereto, it shall be assumed that such party has thereby entered, and such party does hereby enter into a covenant with the other party to do or perform the same.

7. All grants, covenants, provisos and claims, rights, powers, privileges and liabilities contained in this agreement shall be read and held as made by and with and granted to and imposed upon the respective parties hereto and their respective heirs, executors, administrators, successors, and assigns, in the same manner as if the words "heirs, executors, administrators, successors, and assigns" had been inscribed in all proper and necessary places, and in the event of more than one person being the Contractor, the said grants, covenants, provisos and claims, rights, powers, privileges and liabilities shall be construed and held to be several as well as joint.

8. WHEREVER the singular or masculine is used throughout this agreement, the same shall be construed as meaning the plural or feminine or body corporate, as the context or the parties hereto so require.

IN WITNESS WHEREOF the parties hereto have caused these presents to be executed, the day and year first above written.

SIGNED, SEALED AND DELIVERED IN THE PRESENCE OF

Signature

Witness Signature

Officer Name (Print)

Witness Name (Print)

CONTRACTOR

Signature

Witness Signature

Officer Name (Print)

Witness Name (Print)

CORPORATION

PERFORMANCE AND FULFILMENT BOND

KNOW ALL MEN BY THESE PRESENTS THAT

(hereinafter called the Principal), as Principal and

(hereinafter called the Surety), as Surety, are jointly and severally held and firmly bound unto

(hereinafter called the Obligee), each in the penal sum of

(\$ _____) of lawful money of Canada for the payment whereof unto the
Obligee, the Principal and Surety jointly and severally bind themselves forever firmly by these
presents.

WHEREAS the Principal has entered into a certain agreement in writing with the obligee
bearing date the _____ day of _____, 20____, a copy
of which is hereunto annexed and made a part thereof as fully and to all intents and purposes as
though recited in full herein.

NOW THEREFORE the condition of this obligation is such that if the Principal shall indemnify
the Obligee against any and all loss, damage, and expense arising by reason of the failure of the
Principal to perform and fulfil the said Agreement, then this obligation shall be void; otherwise
it shall remain in full force, virtue and effect.

AND IT IS HEREBY DECLARED AND AGREED that the Surety shall be liable under this
obligation as fully as if it were the Principal and that nothing of any kind or nature whatsoever
that will not discharge the Principal shall operate as a discharge or a release of liability to the
Surety, any law, rule or equity or usage relating to the liability of sureties to the contrary
notwithstanding.

IT IS HEREBY DECLARED AND AGREED that this obligation shall be binding upon and
enure to the benefit of the Principal, the Surety and the Obligee and upon and to their respective
heirs, executors, administrators, successors and assigns, and every one of them as if the words
"heirs, executors, administrators, successors, and assigns" had been inscribed in all necessary
places.

SIGNED AND SEALED THIS _____ DAY OF _____, 20____

LABOUR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS THAT

(hereinafter called the Principal), as Principal and

(hereinafter called the Surety), as Surety, are jointly and severally held and firmly bound unto

(hereinafter called the Oblige), as Oblige, as trustee for the use and benefit of the Claimants,
their and each of their heirs, executors, administrators, successors, and assigns in the penal sum
of

(\$ _____) of lawful money of Canada, for the payment of which sum well and truly
to be made the Principal and the Surety bind themselves forever firmly by these presents.

WHEREAS the Principal has entered into a certain agreement in writing with the Oblige
bearing date the _____ day of _____, 20____, a
copy of which is hereunto annexed and made a part hereof as fully and to all intents and
purposes as though recited in full herein and which is hereinafter referred to as the Contract.

NOW THEREFORE THE CONDITION OF THIS OBLIGATION is such that, if the Principal
shall indemnify the Oblige against any and all loss, damage, costs, charges, expenses or
liabilities arising by reason of the failure of any Claimant to indemnify and save harmless the
Oblige as mentioned in Clause 2 hereof and shall make payment to all Claimants for all labour
and material used or reasonably required for use in the performance of the Contract, then this
obligation shall be null and void; otherwise it shall remain in full force, virtue and effect,
subject, however, to the following conditions:

- 1) A Claimant for the purpose of this Bond is defined as any person, firm or corporation
having a direct contract with the Principal for labour and material, or both, used or
reasonably required for use in the performance of the Contract, labour and material
being construed to include that part of water, gas, power, light, heat, oil, gasoline,
telephone service or rental equipment directly applicable to the Contract provided that a
person, firm or corporation who rents equipment to the Principal to be used in the
performance of the Contract under a contract which provides that all or any part of the
rent is to be applied towards the purchase price thereof shall only be deemed to be a
Claimant to the extent of the prevailing industrial rental value of such equipment for the
period during which the equipment was used in the performance of the Contract. The
prevailing industrial rental value of equipment shall be determined, insofar as it is
practical to do so, in accordance with and in the manner provided for in the latest revised
edition of the publication of the Canadian Construction Association entitled "Rental
Rates on Contractors' Equipment" published prior to the period during which the
equipment was used in the performance of the Contract.

LABOUR AND MATERIAL PAYMENT BOND (continued)

- 2) The Principal and the Surety jointly and severally agree with the Oblige as trustee as aforesaid that every Claimant who has not been paid as provided for under the terms of his contract with the Principal before the expiration of a period of ninety (90) days after the date on which the last of such Claimant's work or labour was done or performed or materials were furnished by such Claimant, may as a beneficiary of the trust herein provided for, sue on this Bond, prosecute the suit to final judgment for such sum or sums as may be justly due to such Claimant under the terms of his said contract with the Principal and have execution thereon. Provided that the Oblige is not obliged to do or take any act, action or proceeding against the Surety on behalf of the Claimants or any of them to enforce the provisions of this Bond. If any act, action or proceeding shall be taken either in the name of the Oblige or by joining the Oblige as a party to such proceedings then such act, action or proceeding shall be taken on the understanding and basis that the Claimants or any of them who take such act, action or proceeding shall indemnify and save harmless the Oblige against all costs, charges and expenses or liabilities incurred thereon and any loss or damage resulting to the Oblige by reason thereof. Provided still further that, subject to the foregoing terms and conditions, the Claimants or any of them may use the name of the Oblige to sue and enforce the provisions of this Bond.
- 3) No suit or action shall be commenced hereunder by any Claimant:
- (a) unless such Claimant shall have given written notice within the time limits hereinafter set forth to each of the Principal, Surety and Oblige, stating with substantial accuracy the amount claimed. Such notice shall be served by mailing the same by registered mail to the Principal, Surety, and Oblige at any place where an office is regularly maintained for the transaction of business by such persons or served in any manner in which legal process may be served in the Province or other part of Canada in which the subject matter of the contract is located. Such notice shall be given (i) in respect of any claim for the amount or any portion thereof required to be held back from the Claimant by the Principal under either the terms of the Claimant's contract with the Principal or under the Mechanics' Liens Legislation applicable to the Claimant's contract with the Principal whichever is the greater within one hundred and twenty (120) days after such Claimant should have been paid in full under the Claimant's contract with the Principal; (ii) in respect of any claim other than for the holdback or portion thereof referred to above within one hundred and twenty (120) days after the date upon which such Claimant did or performed the last of the work or labour or furnished the last of the materials for which such claim is made under the Claimant's contract with the Principal.
 - (b) after the expiration of one (1) year following the date on which Principal ceased work on the Contract including work performed under the guarantees provided in the Contract.
 - (c) other than in a court of competent jurisdiction in the Province or District of Canada in which the subject matter of the Contract or any part thereof is situated and not elsewhere, and the parties hereto agree to submit to the jurisdiction of such court.

LABOUR AND MATERIAL PAYMENT BOND (Continued)

- 4) The amount secured by this Bond shall be reduced by and to the extent of any payment or payments made in good faith and in accordance with the provisions hereof, inclusive of the payment by the Surety of mechanics' liens which may be filed of record against the subject matter of the Contract, whether or not claim for the amount of such lien be presented under and against this Bond.
- 5) The Surety shall not be liable for a greater sum than the penal sum hereof.
- 6) The Surety shall be liable under this obligation as fully as if it were the Principal, and that nothing of any kind or nature whatsoever that will not discharge the Principal shall operate as a discharge or a release of liability to the Surety, any law, rule or equity or usage relating to the liability of sureties to the contrary notwithstanding.
- 7) This obligation shall be binding upon and enure to the benefit of the Principal, the Surety and the Obligee and upon and to their respective heirs, executors, administrators, successors and assigns, and every of them as if the words "heirs, executors, administrators, successors and assigns" had been inscribed in all necessary places.

SIGNED AND SEALED THIS _____ day of _____, 20____

Signature and Corporate Seal
of Principal

Signature and Corporate Seal of Surety

FINAL RECEIPT

_____, B.C.

_____, 20____

Upon receipt from

as full and final payment in respect of the work provided for Contract No.:

in the amount of _____
_____ dollars

_____ cents (\$_____) this being the full amount
accruing to the undersigned by virtue of said contract, (said amount also covering and including
full payment for the cost of all extra work and material furnished by the undersigned in the
fulfillment of said work, and all incidentals thereto), the undersigned will release the said
Corporation from all claims whatsoever growing out of said contract.

And these presents are to certify that all persons doing work upon or furnishing materials for said
work under the foregoing contract have been paid in full.

Signed

SEAL

Note: This document is to be signed by an officer of the Company authorized to sign Contracts,
and the Corporate seal attached.

STATUTORY DECLARATION CONSTRUCTION CONTRACTS

PROGRESS ESTIMATE (Statement (2) applies)
FINAL ESTIMATE (Statement (3) applies)

IN THE MATTER OF a contract bearing No. _____ entered into with

_____ of _____

for _____

IN THE MATTER OF:

[] Progress Estimate No. _____

[] Final Estimate No. _____ following issue of Certificate of Acceptance

covering work done up to _____

TO WIT:

I, _____, of _____
(Print full name of Declarant) (Declarant's address)

_____, do solemnly declare:

- (1) that I am the _____
(Declarant's title or position with the contractor)
of the Contractor named in the contract above mentioned, and as such have knowledge of the matters set forth in this declaration;
- (2) that up to the date of the Progress Estimate specified above, the Contractor has complied with all its lawful obligations with respect to the labour conditions, and that up to the date of the immediately preceding Progress Estimate the Contractor has paid its suppliers in full for all materials and has discharged all its lawful obligations to its subcontractors;
- (3) that up to the date of issue of the Final Estimate specified above, the Contractor has complied with all its lawful obligations with respect to the labour conditions, has paid its suppliers in full for all materials, has discharged all its lawful obligations to its subcontractors, and, that the Contractor has discharged and satisfied all its lawful obligations and any lawful claims against the Contractor that arose out of its performance of the contract;

AND I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and by virtue of the Canada Evidence Act.

DECLARED before me _____)

At _____)

In the Province of _____)

This _____ day of _____, 2004)

(Declarant's Signature)

Notary Public, Commissioner or Justice of the Peace